

The
Propaganda
For Reform

— IN —
Proprietary Medicines





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THE PROPAGANDA FOR REFORM

— IN —

Proprietary Medicines

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[EIGHTH EDITION]

REPRINTED FROM THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

Council on pharm - chem



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PREFACE TO THE SIXTH EDITION

In February, 1905, the Council on Pharmacy and Chemistry of the American Medical Association was organized to investigate the proprietary medicine question and to pass on those preparations which should be up to the standard required of ethical proprietary medicines. From time to time reports of this Council have appeared in the columns of *THE JOURNAL* of the American Medical Association, and *THE JOURNAL* has also contained other matter relating to the question of nostrums and proprietary medicines not directly connected with the work of the Council. Requests have been received repeatedly for this or that number of *THE JOURNAL* containing an article on the subject, and, as it has been impossible to furnish many of the copies asked for, it has been thought best to collect some of the matter and issue it in this reprint form. The matter is reprinted from *THE JOURNAL*, either in full or in abstract, and the date on which the original article appeared is given.

PREFACE TO THE EIGHTH EDITION

The seventh and eighth editions have been compiled on slightly different principles from their predecessors. The work of *THE JOURNAL* and of the Association's laboratory was at first confined almost entirely to the criticism and analysis of the so-called ethical proprietaries. And rightly so. The medical profession could not consistently criticise the nostrum evil so long as its own members were prescribing nostrums. It was incumbent on the profession to clean its own backyard before calling attention to the disreputableness of the yards of its neighbors.

As the more flagrant evils of the "ethical proprietary" question were mitigated, the Association has turned the search-light on the more widespread "patent medicine" evil. Of necessity, most of the articles devoted to "patent medicines" or quackery are of greater interest to the general public than they are to the medical profession. The result has been that the number of inquiries from laymen regarding various nostrums and quacks has been steadily increasing. It has been thought best, therefore, to publish in a separate book all of the matter that has appeared in the Propaganda for Reform department of *THE JOURNAL* relative to quackery and to those nostrums exploited only—or chiefly—to the public. This has been done, and the result is the book "Nostrums and Quackery." The present edition of *The Propaganda for Reform* contains, therefore, practically none of the matter that is of direct interest to the layman. In one or two cases in which there seems to have been an "overlapping," matter that has already appeared in "Nostrums and Quackery" is also given here. As a general rule, however, the matter for the eighth edition of *The Propaganda for Reform* is of strictly professional interest. Those physicians who are desirous, therefore, of obtaining in convenient form the matter dealing with "patent medicines" should order the book "Nostrums and Quackery."

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THE PROPAGANDA FOR REFORM IN PROPRIETARY MEDICINES

PART I COUNCIL REPORTS

ACETANILID MIXTURES

Report of the Council on Pharmacy and Chemistry

To the Council on Pharmacy and Chemistry:

In response to the request of your chairman we have investigated the below-mentioned preparations and report as follows:

Specimens of the articles were bought in different cities in the open market, and in original sealed packages, and were analyzed by some of us or under our direction. Each article was examined by at least two chemists, and some were subjected to several analyses. While certain of the preparations are represented as being chemical compounds, the specimens examined were all found to be mixtures; the principal ingredient being acetanilid. The percentage proportions of acetanilid given below are the minimum obtained by any of the analysts.

Soda and ammonia, combined with carbonic acid, are calculated and reported as sodium bicarbonate and as ammonium carbonate (U. S. P.) respectively. Salicylic acid is calculated and reported as sodium salicylate. Diluents and other constituents than those reported were not determined.

AMMONOL

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid.	Sodium Bicarb.	Ammonium Carb.
50.	25.	20.

ANTI-KAMNIA *

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid	Caffein	Citric Acid	Sodium Bicarb.
68.	5.	5.	20.

KOEHLER'S HEADACHE POWDERS

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture.

* See also article in Part III, page 187.

and to contain the following ingredients approximately in the proportions given:

Acetanilid
76.

Caffein
22

ORANGEINE

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
43.

Sodium Bicarb.
18.

Caffein
10.

Other constituents said to be present were not determined.

PHENALGIN

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
57.

Sodium Bicarb.
29.

Ammonium Carb.
10.

Certain packages of phenalgin were purchased which on analysis did not show ammonium carbonate.

SALACETIN

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
43.

Sodium Bicarb.
21.

Sodium Salicylate
20.

We recommend that this report be printed in THE JOURNAL of the American Medical Association.

Respectfully submitted.

J. H. LONG, M.S., Sc.D.,

W. A. PUCKNER, Ph.G.

S. P. SADTLER, Ph.D.,

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H. W. WILEY, M.D., Ph.D.,

} Committee on Chemistry,
Council on Pharmacy and
Chemistry of the A. M. A.

(From The Journal A. M. A., June 3, 1905.)

ANASARCIN AND ANEDEMINE

Reports of the Council on Pharmacy and Chemistry and Comments Thereon

The following reports were submitted to the Council by the subcommittee to which these articles were assigned:

ANASARCIN •

To the Council on Pharmacy and Chemistry:—Your subcommittee to whom Anasarcin (Anasarcin Chemical Co., Winchester, Tenn.) was assigned, herewith submits its report:

This remedy is offered in two forms: "Anasarcin Tablets," a pretended combination of the active principles of oxydendron arboreum, sambucus canadensis, and urinea scilla; and "Anasarcin Elixir," said to contain the active principles of oxydendron, sambucus, hepatica and potassium nitrate. The advertisements of these articles conflict with the rules of the Council as follows:

With Rules 1 and 2: The composition of these articles is kept secret, in that the proportion of the ingredients is not furnished. The statement that it contains the "active principles" is misleading, since these are for the most part unknown.

With Rule 6: The description of the pharmacologic action of Anasarcin agrees practically with that of squill. No material part of its effects can be attributed to the other ingredients. Nevertheless, the advertisement studiously cultivates the impression that Anasarcin has no relation whatever to the digitalis group in which scilla is commonly placed. The claims are therefore misleading. The claim of its infinite superiority to digitalis, the claims that it cures neurasthenia, eliminates uric acid in rheumatism, and is useful in obesity, cystitis, lumbago and eclampsia, dyspepsia and asthma, and that it works wonders in exophthalmic goiter, appear exaggerated or false.

The recommendation of its indiscriminate use in nephritis, for lowering the blood-pressure and the statement (contradicted in the firm's own literature) that it is not depressing, are actually dangerous.

It is recommended that the articles be refused recognition, and that the report, with explanations, be published.

ANEDEMIN

To the Council:—Your subcommittee to whom Anedemin (Anedemin Chemical Co., Winchester, Tenn.) was assigned herewith submits its report:

Anedemin is an evident imitation of Anasarcin. It is marketed as tablets, said to contain the isolated active principles of strophanthus, apocynum, squill and sambucus—chemically combined. The quantities are not stated. The therapeutic claims are copied almost literally from the Anasarcin circulars and are equally false. Anedemin, therefore, conflicts with Rules 1, 5, 6 and 7.

It is recommended that this report be published, with comments.

The reports were adopted by the Council and are herewith published.

W. A. PUCKNER, Secretary.

Anasarcin

This wonderful remedy, Anasarcin, has already been exposed in these columns (THE JOURNAL A. M. A., Jan. 27, 1906), but it deserves additional mention, as it teaches several important lessons of general application. It is a typical example of the revival, under a new name and a thin disguise, of an old, time-worn article, squill, presumably because experience has demonstrated its general inferiority to other drugs. Anasarcin fur-

ther illustrates the dangers involved in the use of semi-secret nostrums. It also shows how a short experience with a widely advertised but little understood drug is apt to lead to conclusions which more extensive experience demonstrates to be entirely fallacious.

The first lesson is, that formulas are not always what they seem. A hasty glance at the formula of Anasarcin tablets, the basis of the Anasarcin dropsy cure, creates the impression that it is a non-secret remedy; for it is said to represent a combination of the active principles of oxydendron, sambucus and scilla. As a matter of fact, it is a secret nostrum of the insidious kind. A formula which omits the quantities of its potent ingredients means very little. Further than this, we do not hesitate to charge that the claimed composition is a deliberate deception. The circulars emphasize the claim that Anasarcin consists of the *isolated principles*, and not of the crude drugs. Now, the isolated active principles of sambucus and oxydendron are not on the market, for the good and sufficient reason that no active principles have ever been isolated. Are we to believe that the Anasarcin Company has surpassed the accredited chemists and has discovered such principles and is isolating them? We shall have more to say on this subject presently; but any one in the least familiar with the difficulties attending the isolation of organic principles knows such an idea to be preposterous. Indeed, it is absolutely incompatible with the exhibition of ignorance of the elementary facts of pharmaceutical chemistry which is given by these people when they call the active principles of digitalis and squill "alkaloids."

It is an axiom that the effects of a mixture can only be understood if the action of its components are known. So far as we know, the physiologic effects of oxydendron and sambucus have never been scientifically investigated, for the simple reason that they are too slight and indefinite to promise results. Both are credited with some slight, obscure diuretic action. Oxydendron, the sour wood or sorrel tree, is a small tree of the heath family, the acid leaves of which are said to be chewed by hunters for their pleasant taste and for the relief of thirst. Sambucus is the common elder. It is most unlikely that these two innocuous substances should play any part in the claimed powerful effect of Anasarcin; they are evidently put in the formula, we do not say in the preparation, to obscure the fact that Anasarcin is composed principally of squill. That this is so can be gathered unmistakably from a study of the pharmacologic action of Anasarcin as described by its promoters:

Acting primarily on the heart and arterial systems through the nerve ganglia, a natural physiologic balance is established between the arterial and venous systems, whereby effusions . . . are eliminated . . . Coincident with this action there is a noteworthy *slowing* of the pulse. . . . If the remedy is pushed,

can be brought down to 20 or 30 beats per minute. . . . Its physiological action is to stimulate the cardiac motor-ganglia through the cardiac plexus of the sympathetic system and at the same time exert an inhibitory influence upon the cardiac fibers of the pneumogastric, thereby dilating the arterioles, slowing the heart's action, and increasing the force of the systole. . . . The prolonged diastole allows the ventricle time to completely fill, and the more forcible contraction causes the mitral valve to close more thoroughly and at the same time increases pressure in the coronary arteries, serving thereby the double purpose of relieving pulmonary engorgement and increasing heart nutrition.

Anarscin will nauseate some persons.

To appreciate fully the meaning of this description of the actions of Anarscin, it should be compared with the effects of the digitalis group, to which squill belongs. The following account is quoted literally from a recent Text-Book of Pharmacology (Sollmann):

The phenomena of the therapeutic stage of digitalis action are said to be:

1. Slowing of the heart, with systole and diastole both lengthened.

2. Increased strength of beat, leading to greater efficiency of the individual contractions, and to an increase in the total efficiency.

3. A tendency to the systolic phase.

4. A rise of blood-pressure, due mainly to the increased action of the heart, but partly also to a vaso-constriction.

The therapeutic action may be explained, in part, as follows:

A larger amount of blood will be thrown into the aorta and coronary circulation. The first effect will be an improved nutrition of the heart. . . . The tonic action . . . narrows the ring of the valves, brings them together, narrows the orifice. . . . The venous congestion will tend to be relieved. This relief . . . will fall in the first place upon the lungs. . . . The lowering of the venous pressure will tend to cause absorption of the effusions.

The nauseant action of squill, which is alluded to in connection with Anarscin, is too well known to require more than a mention.

In brief, then, it appears from the statements of the Anarscin Company that the action of the remedy is that of squill and that the other ingredients are a mere blind. It is, of course, well known that squill can be used as a substitute for digitalis in cardiac dropsy, although it is generally considered very inferior to the latter drug. Rose Bradford, for instance, states: "Squill is not used to any extent in the treatment of cardiac disease and cardiac dropsy, digitalis being a far more efficient and less toxic substance." However, it has been frequently observed that digitalis occasionally fails, and it may then be replaced successfully by another member of the group.

At all events, it is very likely that squill is a fairly efficient substitute for digitalis, especially when it is supplemented by a very free course of Epsom salts and by potassium nitrate (the active ingredient of Anasarcin Elixir), both of which are stated to be essential adjuvants to the Anasarcin (or squill) tablets. There can be no objection to the use of squill when it is indicated; but any one who wishes to use it should do so with his eyes open, knowing what substance he is using and how much (which he does not in Anasarcin); knowing also that it has the same indications and limitations as digitalis. He should not be misled by such statements as the following:

"Does what dropsy medicaments have hitherto failed to accomplish."

"Superior to digitalis, strophanthus, scoparius, squills, acetate of potash and the hydragogue cathartics all put together."

"The only known relief [how modest!] and permanent cure of dropsies."

"Unrivalled heart tonic." "The most powerful agent known."

Any one wishing to use squill should take the trouble to acquaint himself with the results obtained by competent and independent observers, and not rely on it in eclampsia, septicaemia, "vices of civilization," all forms of neurasthenia, as "an active eliminator of uric acid in rheumatism," in hepatic cirrhosis, dyspepsia, asthma, obesity, cystitis (!) lumbago, exophthalmic goiter, etc.

He should also learn the contra-indications to the use of squill, deducible from the fact that it causes vasoconstriction and raises the blood-pressure (prohibiting its use in Bright's disease and arteriosclerosis), and that it produces marked gastric irritation, consequently nausea and depression, that it is a very toxic agent, and that the dangers of cumulative action must be borne in mind. In respect to these the advertisements of the Anasarcin people are little short of criminal, for these state:

"Safe in administration." "Non-toxic as ordinarily administered." "Will nauseate some persons," but "the reaction from the temporary depression is prompt." "In Bright's disease, both the interstitial and parenchymatous forms of nephritis, acute or chronic, no remedy . . . to equal it in efficacy." "Without increasing the debility of the patient or interfering with nutrition by producing loss of appetite." "This treatment is to be continued without cessation until all symptoms of dropsy have disappeared."

Physicians who are inclined to disregard this warning, and who follow the advice of the Anasarcin people, should remember that their patients—or their friends—will put the blame for the results, which are bound to follow sooner or later, on the prescribers, and not on the deceptive advertisements of the Anasarcin Chemical Company.

There is another little matter which throws an illuminating side-light on the Anasarcin Company. They take every occasion to say that Anasarcin is "not offered to the laity," "never

sold to the laity," etc.; but witness the following, which was found in the *Retail Druggist* of May, 1906, p. 179. The italics are ours.

CURE FOR DROPSY.

"As every druggist knows, dropsy has been one of the incurable diseases when caused either from heart, liver or kidney trouble. A *pharmacist* in Winchester, Tenn., *has worked out a remedy* called Anasarcin, which he is exploiting to the physicians, and his remedy is showing itself as possessing great merit. Several hopeless cases have been treated as a last resort by Anasarcin and in a very short time the patient has shown marked improvement and has effected permanent cures.

"The result of the cases as handled by the physician with the aid of Anasarcin has been so easily and quickly cured that physicians of Tennessee and the southern states are high in their praises of the remedy. The company which now manufactures and sells it is known as the Anasarcin Chemical Co., of Winchester, Tenn. *Any druggist who knows of a case of dropsy would be conferring a favor on the patient and mankind in general by telling the party or his physician of the southern pharmacist*, and we have no doubt but what a prompt relief and permanent cure would be effected." [Probably means effected.—ED.]

Anedemin

If we are disposed to doubt the vaunted scientific ability of the Anasarcin Company, we are forced to admire their business methods, at least, if there is any truth in the saying that imitation is the seal of success. Anasarcin has had this rather undesirable compliment paid to it, for its native town of Winchester has given birth to another remedy, Anedemin, which looks like a fair-haired twin brother. The Anedemin Company has adopted Anasarcin almost bodily. The name—"opposed to edema"—is about as close as the copyright laws permit. The pharmacologic and therapeutic claims agree almost literally with those of Anasarcin and contain the same exaggerations and dangerous misstatements. There is the same emphasis on free purgation with Epsom salts. The dose is the same. Both are marketed at \$2.00 for a box of 100—only the Andemin people have adopted the prize package device of throwing in 20 or 30 tablets extra, for good measure, and give a discount of 75 cents or so.

In short, the Anedemin Company has appropriated all of Anasarcin which they considered of any value. It is, therefore, rather suggestive that they drew the line at the formula. Anasarcin is said to contain squill, sambucus and oxydendron; Anedemin discards the oxydendron and reinforces the squill with strophanthus and apocynum. Notwithstanding this material change in composition, the actions are described as identical; this is again rather suggestive.

The Anedemin Company, like the Anasarcin Company, scorns crude drugs and claims to use only the isolated principles. It was saved the trouble of discovering active principles for strophanthus and apocynum, for these are known; but it man-

aged to find some scope for its inventive genius, "both drugs being so chemically treated and disposed as to absolutely eliminate all objectionable and disagreeable properties and effects" so as to convert a vasoconstrictor action into a dilator action; so as to render them non-toxic and non-cumulative; so as to deprive apocynum of its characteristic nauseant effect. Who can say that the days of miracles are past? Even this is not the limit of Anedemin alchemy; if we are to believe their claims, they have succeeded in forcing strophanthin, apocynum, scillain, etc., to combine with each other: "It is a *definite chemical compound* of the active principles" of these drugs! This makes the achievements of Emil Fischer in synthesizing sugars and proteids appear as mere child's play.

Since the formulas were completed, however, clinical reports have been numerous enough—almost too numerous, if we are to believe them. Anedemin has been on the market for less



Laboratory and Warehouse of the Anasarcin Chemical Company, Winchester, Tenn.

than three years; the circulars emphasize that testimonials and endorsements are not solicited. Nevertheless, we are told that it is "endorsed by over fifty thousand clinicians throughout the United States." Since the total number of physicians in the United States and Canada is only about 128,000, this means that nearly every second physician has endorsed Anedemin. The Anasarcin Company solicits endorsements and they seem to do the larger business. Hence the majority of physicians of the United States must have written an endorsement of either Anedemin or Anasarcin, or both. Or is this statement another "invention"? It is a little peculiar that nearly all the endorsements come from small towns in sparsely settled districts; practically none from the centers of popula-

tion. Does this mean that dropsy is more common in the rural communities than in the cities?

THE INVENTORS OF ANASARCIN AND ANEDEMINE

Even the newspapers, when they tax our credulity with pretended scientific "discoveries," feel the moral obligation of justifying themselves by telling us something of the personality and experience of the discoverers. We may ask, therefore, who are these expert pharmaceutic and synthetic chemists, these manufacturers of active principles, these skilled clinicians of wide experience, who have "intelligently built up the formula by wide application"? What are we told of these men who ask us to believe, on their mere assurance, in miracles and feats of magic; who tell us that they have converted neutral principles into alkaloids, that they have effected definite chemical compounds between these neutral principles, that they have discovered principles that do not exist, that they have changed the actions of these principles to suit their wishes, that, in short, they have reversed the laws of Nature?

These companies are located in Winchester, Tenn., a town of about 1,500 inhabitants, situated in an agricultural country. The town boasts of neither scientific schools, colleges, universities nor laboratories. The Anasarcin Company was organized in 1902, the incorporators and directors being Dr. John W. Grisard and his sons, Dr. John P. Grisard, B. A. Grisard, and A. F. Grisard, and Will E. Walker, all of Winchester. Dr. John W. Grisard seems to be the originator and promoter of Anasarcin. W. E. Walker is an insurance solicitor of Winchester and is not actively identified with the business. We are informed that he owns but a single share of stock having a face value of \$100, and that he was added to the company in order to comply with the laws of Tennessee, which require five directors for any corporation. Dr. John W. Grisard, the father, has practically retired, but still has a general supervising interest in the business. There is no regularly licensed pharmacist or chemist connected with the company. The office is in the rear of a jewelry store in the business part of Winchester and on the second floor above. According to our reporter, an office force of about ten stenographers and clerks handles the correspondence and labels and sends out the preparation which is made in a crude frame building located on a side street and without laboratory equipment. According to our reporter, the work is done by the Grisards and a colored man.

The Anedemin Chemical Company was organized in 1905 with a capital of \$20,000, the incorporators and directors being Dr. T. B. Anderton, Floyd Estill, J. J. Lynch, J. M. Littleton and I. G. Phillips, all residents of Winchester, and all lawyers with the exception of Dr. T. B. Anderton. A Mr. Gordon, a clerical employee of the company, is reported to have active charge of the business, to prepare the medicine and conduct the correspondence. The office headquarters, laboratory and

complete outfit of the Anedemin Company comprises two rooms over the law office of Estill & Littleton. No one connected with the company is a regularly licensed pharmacist or graduate chemist.

Of the six physicians located in Winchester, three of them (50 per cent.) are engaged in the dropsical cure business. Poor Winchester! Aside from their connection with these two nostrums, these physicians may be estimable and worthy citizens, but where, pray, did they find the extensive clinical facilities and pharmaceutical knowledge necessary for their wonderful and epoch-making discovery? Were they aided in their scientific work by the four lawyers connected with the Anedemin Company or by the insurance solicitor who is a director of the Anasarcin Company? Did the 1,500 inhabitants of the town furnish the vast clinical material necessary for discovering and working out the formulas of these two preparations? If so, we fear that dropsical affections are much more prevalent in Winchester than in any other known spot on the globe. This matter should be investigated. Without doubt the vital statistics of Franklin County would be most interesting and we commend them to the special attention of the medical profession in Tennessee.—(*From The Journal A. M. A., May 4 and 11, 1907.*)

ADVERTISING OF ANTISEPTICS, GERMICIDES AND DISINFECTANTS TO THE PUBLIC

Report of the Council on Pharmacy and Chemistry

With the view of encouraging the use of reliable and efficient antiseptics, germicides and disinfectants by the public, so far as is compatible with safety, the Council appointed a committee to formulate conditions under which the advertising to the public of such preparations accepted for inclusion with New and Nonofficial Remedies should be permitted.

The Council adopted a report which authorizes the advertising of antiseptic and germicidal preparations to the public provided that the advertising is limited to recommendations for use as a prophylactic application to superficial cuts and abrasions of the skin and to the mucous surfaces except those of the eye and the gastro-intestinal and genito-urinary tracts. The report follows.

W. A. PUCKNER, Secretary.

Report of the Committee on Advertising of Antiseptics, Germicides and Disinfectants to the Public

Antiseptics, germicides and disinfectants are freely used by the public and as the result has proved, on the whole, to be beneficial, no restriction of this use has hitherto seemed advisable, contrary to that advocated for remedies taken internally.

This principle has been recognized by the Council on Pharmacy and Chemistry in Rule 3:

"No article that is advertised to the public will be admitted, but this rule will not apply to disinfectants advertised for uses other than on the human body or to non-medicinal food preparations, except when advertised in an objectionable manner."

In the advertising of antiseptics, germicides and disinfectants directly to the general public, the first and only consideration should be the public welfare, and two distinct divisions of the question may thus be formulated:

1. Shall the exploitation to the public of antiseptic, germicidal and disinfective preparations (already accepted for inclusion with New and Nonofficial Remedies) be permitted when these preparations are to be used on the human body?

2. Or, shall their exploitation be limited to recommendations for veterinary use or for uses other than those on the human body?

The arguments advanced in favor of the first division are:

A. The general public is constantly using some antiseptic solutions, advertised for cuts, bruises, and other external injuries. Why should not the public be aided in selecting the most effective preparation?

B. Antiseptic mouth-washes, tooth powders, etc., are commonly used without consulting a physician. The employment of efficient substances for these purposes is beneficial, and it would be a distinct benefit were the public given more definite instruction regarding their use, particularly for prophylaxis.

C. Ordinarily the use of antiseptics for the above-mentioned purposes is not likely to handicap the physician in his efforts to conserve the public health.

It must be admitted that the general use of safe, non-proprietary antiseptics and germicides like boric acid and hydrogen peroxid does much good and little harm. The public is fairly well informed concerning both the advantages and limitations of these remedies, because no one is interested in misrepresenting their action or exaggerating their merits. The situation is different with regard to proprietary antiseptics. The constant tendency is to assure the public that the remedy is a sure preventive or cure of all kinds of diseases and to encourage its use in all conditions. Thus the public is led to feel a sense of safety in the presence of danger and this often keeps the individual from obtaining that treatment which is necessary to prevent serious illness. The advertising of proprietary antiseptics, germicides and disinfectants by means of pamphlets and circulars accompanying the trade package is particularly objectionable and liable to be harmful to the public, if the claims are exaggerated or if the article is recommended as a treatment of specified diseases.

One needs only to recall the advertisements in the lay press, during a recent epidemic of meningitis, of a proprietary antiseptic preparation which, it was claimed, would prevent and cure the disease if applied to the mucous membrane of nose and throat. Likewise the use of another proprietary antiseptic preparation exploited to the public by means of recommendations accompanying the trade package has lured many a victim of venereal diseases into a sense of safety and thus deprived him of proper treatment.

Tragedies of this nature are bound to occur with inefficient remedies dishonestly exploited. It is to be determined whether the sanction of the Council on Pharmacy and Chemistry for conservative advertising to the public of good antiseptics, germicides and disinfectants for the purposes indicated would decrease or increase the number of such mistakes.

Experience shows that proprietary brands of hydrogen peroxid, an otherwise most valuable germicide, have been falsely advertised to the public, in the lay press, or by means of circulars accompanying the trade packages, in such a manner as to encourage the belief that they are capable of preventing diphtheria, tetanus and other diseases amenable to cure only by proper medical measures.

The following paragraph (quoted from the comments on Rule 3 in New and Nonofficial Remedies) pointing out the objections of lay advertising of proprietary remedies in general applies with equal force to the dangers of advertising antiseptics and germicides to the public:

"The impossibility of controlling the irresponsible claims which are usually made in advertisements to the public, the well-known danger of suggesting by descriptions of symptoms to the minds of the people that they are suffering from the many diseases described, the dangers of an unconscious and innocent formation of a drug habit, and the evils of harmful self-medication, including the dangers of the spread of many infectious and contagious diseases when hidden from the physician, and similar well-known considerations are the reasons for discouraging, in the interest and for the safety of the public, this reprehensible form of exploitation."

It is our opinion that the harm likely to result from lay advertising of proprietary antiseptics, germicides and disinfectants for use on the human body, except as a means of prophylaxis, far outweighs the possible good.

The advertising of antiseptics, germicides and disinfectants for veterinary use and as a means of prophylaxis is not open to the same criticisms. Especially is truthful advertising of disinfectants for privy vaults, manure heaps, stagnant pools of water, soiled clothing, etc., a valuable means of educating the public in these matters of sanitation.

It appears to the committee that proper advertising to the laity of disinfectants for veterinary and non-medicinal use does not imperil the health of the community, as is the case

with preparations used for medicinal purposes. On the other hand, it is to the interest of the public to receive reliable information concerning the value of these preparations for the prevention of disease and concerning the best methods for their employment.

At the present time inferior preparations are found in a large proportion of households, and the Council would thus confer a real boon to the public by endorsing reliable preparations. It is therefore recommended that the Council permit the advertising to the public of antiseptics, germicides and disinfectants accepted for inclusion with new and Nonofficial Remedies, and that the following should be added to Rule 3 of the Council:

The advertising to the public of antiseptics, germicides and disinfectants accepted for inclusion with New and Nonofficial Remedies shall be permitted, provided that it be limited to conservative recommendations for their use as prophylactic applications to superficial cuts and abrasions of the skin and to the mucous surfaces except those of the eye and the gastro-intestinal and genito-urinary tracts. In no case shall it include recommendations for use as curative agents, nor shall the names of any diseases be mentioned in such exploitation.

If the preparation is sufficiently toxic to require caution in its use to prevent poisoning, this fact shall be stated on the label.

(From The Journal A. M. A., April 13, 1912)

CACTUS GRANDIFLORUS

Report of the Council on Pharmacy and Chemistry

The Council voted that cactus grandiflorus should not be accepted for New and Nonofficial Remedies, and that a statement be prepared for THE JOURNAL giving the reasons for this action. Accordingly the following report has been adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Cactus Grandiflorus

The therapeutic value of this plant has been variously estimated by different observers. Experimental evidence as to its action is scanty and no complete chemical examination has ever been made.

Reputable men have testified that some of the plants of the cactus family contain very active principles, but so far experiments seem to prove that cactus grandiflorus has neither the action of digitalis nor that of strychnin. The principal contributions, clinical and experimental, for and against the drug, are set out below.

EXPERIMENTAL EVIDENCE

O. H. Myers¹ worked with a product which he calls cactina and which he regards as the active principle of the drug. (As

1. New York Med. Jour., 1891, liii, 681-683.

no such substance as cactina is described in any *materia medica*, it is impossible to state what Myers really used.) He found that it had a strychnin-like action and raised the blood-pressure.

Hatcher comes to the conclusion: "Either Myers' work was a pure fabrication or he was dealing not with cactin but with a substance similar to the pellotin of Heffter, the action of which resembles that of strychnin to a certain extent."

E. Boinet and J. Boy-Teissier² experimented with an aqueous extract, an alcoholic extract, and with an alkaloid which they call "cactine." They concluded from three sets of experiments on frogs that extract of cactus produces, in ten minutes, a temporary increase in the heart's action which frequently repeated doses are required to maintain; and that large doses slow the heart and produce arrhythmia.

L. E. Sayre³ experimented with a preparation of cactus, made from the stem of the plant, by injecting it into the dorsal lymph space of the frog. There was seemingly an increase in the amplitude of the heart's action and an indication of a strengthened beat or increased force.

R. A. Hatcher⁴ states that it is possible that *cactus grandiflorus*, under certain conditions, may contain a principle with a strychnin-like action. But Hatcher made ten experiments on frogs, four on cats, six on dogs, two on rabbits, and one on a guinea-pig, with Cactina pillets of the Sultan Drug Company and the Cactin of the Abbott Alkaloidal Company. From 1 to 15 pillets in frogs and up to 25 in dogs were used at each dose. In no single instance was there any evidence of a digitalis-like or strychnin-like action, or, in fact, of any decided action of any kind whatever.

Gordon Sharp⁵ was unable to obtain either alkaloid or glucosid from the plant, but found a series of resins that caused contraction of the blood-vessels of a frog. This was not a digitalis-like contraction, but depended, he believed, on simple acidity. On the heart of the frog the resins have little or no effect, comparisons being made with digitalis in the same animals. There is no proof that *cactus grandiflorus* itself shortens diastole, or in fact, that it has any special action on the heart muscle at all. Sharp experimented on himself with large doses of an extract made with alcohol 1 to 5, but got no noticeable results. He thinks that the plant may have some slight diuretic action.

Sayre submitted the preparation which he used in his experiments for more careful testing to E. M. Houghton, who reported that it had practically no action on the heart.

In commenting on Houghton's results, Reid Hunt said that

2. Bull. Gen. de Therap., 1891, cxxi, 343-349.

3. Am. Pharm. Assn., 1906, liv, 405.

4. THE JOURNAL A. M. A., Sept. 21, 1907, pp. 1021-1024.

5. Practitioner, London, 1894, iii, 444-446.

they were confirmed by his own experiments. He did not deny, however, that the drug might have some therapeutic effect and that, in very large doses, it did affect the kidneys.

S. A. Mathews⁶ found one preparation of cactus (cactin—Abbott) absolutely inert so far as any effect on the heart is concerned. He found that cactina (Sultan Drug Co.) in very large doses depressed both the circulation and respiration. In this regard it differs from strychnin, and it has no resemblance to the action of digitalis, strophanthus or any of the heart stimulants. A dose of from 10 to 12 pillets administered intravenously to a 10 to 12 kg. dog exerted little or no influence on the heart or circulation; the larger dose may cause a slight fall in blood-pressure. When 70 or more pillets were administered within two and a half hours the animal generally died.

The work of Boinet and Boy-Teissier also has been criticized by Hatcher on the ground that their most positive results were obtained with an alkaloid which no one at this day is able to prepare. The results quoted in this report, however, were obtained by the use of extracts of cactus so that it does not seem that they should be entirely rejected, whatever their value may be.

CLINICAL EVIDENCE

Clinical observations have been more abundant than exact, and a favorable action of the drug in some organic diseases of the heart has been reported; other observers would limit its use to functional arrhythmia, insisting that it is not a substitute for digitalis or aconite, but that it occupies a place distinct from either of those remedies.

P. W. Williams⁷ recommends cactus for functional heart disease, but, as a rule, found it useless in organic disease. He thinks it one of a class of remedies which act on the accelerator nerves and sympathetic ganglia, shortening the diastole and stimulating the spinal vasomotor nerve centers. Williams apparently relied on Myers for his knowledge of the pharmacologic action, and his paper is a fair example of the clinical studies of cactus.

Ellingwood⁸ claims that cactus is a cardiac tonic, acting on the accelerator nerves and heart ganglia, increasing muscular force and arterial tension. He recommends it in both organic and functional diseases.

Boinet and Boy-Teissier found that therapeutic doses of 40 drops of tincture of cactus were without effect on the normal heart. In patients with noisy asystole (*asystolic bruyante*) the same dose produced no appreciable effect. In the period of latent non-compensation of true cardiac patients, from 80 to 100 drops a day increased the force of the failing heart. In

6. THE JOURNAL A. M. A., March 21, 1908, 1, 956-958.

7. Practitioner, London, 1891, xlvii, 266-273.

8. Med. Rec., New York, 1905, lxxii, 857.

patients with secondary heart disease with arrhythmia of nervous origin, daily doses of 80, 100 and 120 drops of the tincture were well tolerated for weeks; they seemed to increase the fulness of the pulse and regulated its rhythm. In spite of such large doses, these observers never noticed any symptoms that could be attributed to a cumulative action. It must be remembered that the precise preparation of cactus which they used is not known.

Aulde⁹ recommends it as a cardiac tonic free from cumulative effects.

Gordon Sharp says: "The therapeutics of the subject, I think, are clear enough. *Cactus grandiflorus* cannot be included in our list of cardiac drugs. It is not even a simple stomachic tonic and at most all one can say is that it has small diuretic action."

Hatcher says: "Clinical testimony is so conflicting that between the extreme views of Gordon Sharp and those of Ellingwood there is room for an honest difference of opinion concerning *cactus grandiflorus*."

Matthews himself took 100 granules of cactin (1/67 gr.—1 mg. each), 25 every four hours, without experiencing the least effect.

CONCLUSIONS

Reliable conclusions regarding the therapeutic use of *cactus grandiflorus* are rendered difficult on account of several factors.

1. It is uncertain what part of the plant contains the active principle if one exists; and its nature is unknown. The National Standard Dispensatory states that its "activity must be confined to the flower in some special stage of its development or to a certain part of it or to some parts gathered with it." This uncertainty may explain the negative results obtained by some observers but it makes the drug one that cannot be generally relied on and gives an excellent opportunity for the exploitation of proprietary preparations.

2. Some of the experimental work and much of the clinical evidence has been obtained and published under proprietary auspices. For this reason many of the therapeutic claims made for the drug must be viewed as merely the reflection of the exaggerated statements made by the advertisers of proprietary preparations.

3. The value of clinical evidence when unsupported by animal experimentation is much diminished by the tendency of enthusiastic and untrained observers to attribute to the drug given the effect really due to general remedial measures, psychic suggestion and so forth. While it must be admitted that valuable remedies may exist whose therapeutic properties cannot be revealed by animal experimentation, yet in the

9. Practitioner, London, xlvii, 223; Therap. Gaz., 1890.

absence of such experimental evidence conclusions should be drawn with extreme caution.

Bearing these conditions in mind, the following statements seem to be justified: (a) The botanical, chemical and pharmaceutical properties of cactus are not sufficiently determined to make any available preparation a reliable remedy. (b) There is some evidence that cactus may be capable of affecting the animal heart and nervous system, but its action is not that ordinarily attributed to it. It does not increase the force of the heart-beat. (c) While there is some clinical testimony as to its usefulness in functional diseases of the heart, the indications for its administration are at present too uncertain to afford a safe basis for recommending it.

4. While the drug may be deserving of further experimental and clinical investigation, this should be carried on in reliable pharmacologic laboratories and in clinics provided with facilities for exact observation.—(*From The Journal A. M. A., March 12, 1910.*)

CAMPHO-PHENIQUE

Report of the Council on Pharmacy and Chemistry and Some Comments Thereon

The following report was submitted to the Council on Pharmacy and Chemistry by the subcommittee to which Campho-Phenique had been assigned:

To the Council on Pharmacy and Chemistry:—Campho-Phenique, sold by the Campho-Phenique Co., St. Louis, Mo., is claimed to be composed of phenol 49 per cent., and camphor 51 per cent.

Examination of specimens, purchased in the open market, made under our direction, demonstrate that the statements made in regard to the composition are not true. Instead of containing 49 per cent. of phenol (carbolic acid), the analysis showed that it contains not more than 20 per cent. Instead of containing 51 per cent. of camphor, the analysis demonstrates that the amount of camphor is not more than 38 per cent. Besides phenol and camphor, a third substance was found which proved to be liquid petrolatum and to be present to the extent of 38 per cent. or more.

Since the statements made in regard to the composition of Campho-Phenique are deliberate misrepresentations of the facts, it is recommended that the article be not approved.

Besides Campho-Phenique, the above-mentioned firm also sells a preparation labeled Campho-Phenique Powder. While no statement in regard to the composition of this product is made on the label or in the literature, such expressions as "Campho-Phenique in a powdered form" and "Powdered Campho-Phenique" lead to the inference that it has essentially the same composition as that stated for the liquid preparation. An examination of a specimen of Campho-Phenique Powder purchased in the open market showed that 92 per cent. of it

was a talcum-like inorganic substance. The remaining 8 per cent. consisted chiefly of camphor with a small amount of phenol.

In view of the fact that Campho-Phenique Powder contains very little phenol, but instead consists chiefly of an inorganic talcum-like substance, its name is misleading and deceptive. It having been shown that Campho-Phenique Powder corresponds to a camphorated talcum powder, the claims that it "has no equal as a dry dressing," that it is "absolutely superior to iodoform," and that it has "all the excellent properties of aristol and iodoform," are unwarranted. It is recommended that the article be not approved, and that this report be published.

The recommendations of the subcommittee were adopted by the Council, and in accordance therewith the above report is published.

W. A. PUCKNER, Secretary.

Campho-Phenique

The above report on a much advertised "ethical" proprietary medicine is worthy of the thoughtful consideration of the members of the medical profession, as it illustrates admirably some of the conditions connected with this proprietary medicine business.

THE FORMULA A FAKE

First, it illustrates the fact that the published formulas of the "ethical" proprietaries are not always reliable. The Campho-Phenique Company has been very willing to give out a formula, purporting their product to be 51 per cent. camphor and 49 per cent. phenol (carbolic acid). Now, these two drugs will make a liquid mixture, and any druggist can make it, and the mixture will have about the same consistency and appearance as Campho-Phenique. But its effect differs decidedly from that of Campho-Phenique. Some months ago a very intelligent physician, in discussing the proprietary medicine business, said that in some cases physicians could not get druggists to make preparations which were as satisfactory as those which could be bought ready-made. He cited Campho-Phenique as an illustration. He said that he had used this preparation for burns, etc., but as he did not like to use preparations put up by companies about which he knew nothing, he asked his druggist to make the mixture in accordance with the published formula. The druggist's preparation was not satisfactory; it had a decidedly different effect from Campho-Phenique, and so he tried another druggist. This druggist also followed the published formula, but his results, too, differed materially from the proprietary article.

The various analyses that have been made show why the preparations put up by the druggists did not resemble that made by the company; since, according to the analyses, Campho-Phenique consists of 40 per cent. liquid petrolatum, which is an inert but soothing diluent, while instead of 49

per cent. of carbolic acid, as claimed, it really contains less than 20 per cent. This is an entirely different proposition. Now, if the physician referred to above will have his druggist make a mixture of 20 per cent. of carbolic acid, 40 per cent. of camphor and 40 per cent. of liquid petrolatum, and will then compare this resulting compound with Campho-Phenique, he will find that there is not much difference. Furthermore, he will realize that there is nothing either new or wonderful about the preparation. Camphorated oil and carbolized oil are both in common use. Campho-Phenique is apparently simply a mixture of the two.

THE POWDER STILL WORSE

So much for the liquid. The powder seems to be something entirely different, for, according to the chemist's report, over 90 per cent. of it is inert, absorbent, talcum-like material. There is enough camphor and carbolic acid to give the powder an odor and thus mislead physicians, especially those who are in the habit of taking for granted that whatever statements nostrum manufacturers make are true. Perhaps it is a fairly good dressing for wounds—at least it will do no harm—but its name is misleading and deceptive. For all practical purposes it is essentially a camphorated talcum powder.

COMPANY A "PATENT-MEDICINE" CONCERN

The second interesting phase of this "ethical" proprietary is that it illustrates another point, i. e., that many of these articles are supplied to our profession by those who are not legitimate manufacturing pharmacists. The Campho-Phenique Company of St. Louis, according to all reports, is owned and controlled by a gentleman named Ballard. This "company" supplies the medical profession with the preparations under consideration and also with chloro-phenique and scrofonol. We are informed that this same Mr. Ballard is the principal owner, if not the sole owner, of quite a number of "patent-medicine" companies, such as Ballard-Snow Liniment Co., Brown's Iron Bitters Co., Mayfield Medicine Mfg. Co., Smith Bile Beans Co., Swain's Laboratory, and several others. We learn from the wholesale drug trade lists that these various "companies" make and sell, beside the campho-phenique preparations, Ballard-Snow Liniment, Ballard's Herbine, Brown's Iron Bitters, Dr. Herrick's Pills, Richardson's Life-Preserving Bitters, Smith's Bile Beans, Swain's All Healing Ointment, and several other "patent medicines."

It is hardly necessary to make any further comments. The whole business is nauseating to those who know the actual conditions of this nostrum business and how our profession is being deluded. The Campho-Phenique matter is not an exception; it is simply another illustration of these conditions.

The majority of "ethical" proprietaries are foisted on our profession, either without any formula accompanying them, or

with a "formula" that is a fake. The majority of the "ethical" proprietaries are manufactured and supplied to physicians, with instructions regarding their use, by men who bear the same relation to legitimate pharmacy that the veriest quack that ever swindled a credulous public bears to scientific medicine.—(*From The Journal A. M. A., April 20, 1907.*)

CALCIUM GLYCEROPHOSPHATE

Its Poor Quality Shown by a Report of the Council on Pharmacy and Chemistry •

Believing that the glycerophosphates were of some probable value, the Council decided to describe calcium glycerophosphate in New and Nonofficial Remedies, so that definite standards of quality might be prescribed. The Association's Chemical Laboratory having, at the request of the Council, taken up the examination of the supply of calcium glycerophosphate on the American market and entered into correspondence with the manufacturing houses, now reports that no product of even fair quality is to be had, and that those who make it appear not inclined to make improvements. Investigation having shown that the glycerophosphates are probably not superior to ordinary inorganic phosphates, there is little likelihood that a consequent decreasing demand will be any inducement to provide a good quality of drug in the future. In view of these conditions, the Council decided not to describe the drug in New and Nonofficial Remedies, and authorized the publication of the report which appears below.

W. A. PUCKNER, Secretary.

SUPPLEMENTAL REPORT ON CALCIUM GLYCEROPHOSPHATE

The glycerophosphates have come into rather wide use during the last twenty years. This use was based on the belief that because of the chemical relation between glycerophosphates and lecithin, the former were more readily assimilable than inorganic phosphorus compounds. While the evidence for the value of glycerophosphates was not altogether satisfactory, it was considered sufficient to give these products a place among the remedies of possible value and, therefore, the Council decided to describe calcium glycerophosphate in New and Nonofficial Remedies. Since the Council reached this decision, experiments by Fingerling,¹ McCollum and Halpin, and others have shown that animals can form organic phosphorus compounds (lecithin, nucleoproteids, etc.) out of inorganic phos-

1. Fingerling, G.: Die Bildung von organischen Phosphorverbindungen aus Phosphaten, *Biochem. Ztschr.*, 1912, xxxviii, 448. xxxix, 239. McCollum, E. V.; and Halpin, J. G.: Synthesis of Lecithins in the Hen, *Proc. Am. Soc. Biol. Chem.*, 1911; *Jour. Biol. Chem.*, 1912, xi, xiii. See also editorials in *THE JOURNAL A. M. A.*, April 20, 1912, p. 1198; May 25, 1912, p. 1605.

phates quite as readily as from organic phosphorus compounds. Hence, it is probable that the glycerophosphates are of no more value in phosphorus metabolism than the inorganic phosphorus compounds.

At the request of the Council the examination of the available supply of calcium glycerophosphate was taken up in the Association laboratory. The following report from the laboratory gives the result of this examination and indicates the efforts which the laboratory has made to secure the adoption of a suitable standard whereby the quality of the product may be judged.

The laboratory undertook the study of calcium glycerophosphate with the view of proposing standards for its quality. Five specimens were purchased and examined. While a pure specimen should have a faintly alkaline reaction, should be practically free from chlorids, sulphates and alcohol-soluble matter, should contain about 17.5 per cent. of calcium and yield about 55.7 per cent. of ash, the specimens examined gave the following results:

The specimen bearing the label of the Mallinckrodt Chemical Works was faintly alkaline in reaction, contained 1.8 per cent. of chlorid (calculated as sodium chlorid), 0.66 per cent. of alcohol-soluble matter, lost 4.5 per cent. of its weight by drying over sulphuric acid, left 51.9 per cent. of ash on ignition and yielded 12.7 per cent. of calcium by the method used for the determination. This specimen contained considerable amounts of a sodium salt, possibly sodium glycerophosphate.

The specimen sold under the Powers-Weightman-Rosengarten Co. label contained about 1 per cent. of sodium chlorid, 1.8 per cent. of calcium sulphate, 0.7 per cent. of alcohol-soluble matter, free acid equivalent to about 3 per cent. of citric acid, lost 3.5 per cent. of its weight when dried over sulphuric acid, left 51 per cent. of ash on ignition and yielded 15.6 per cent. of calcium.

The Schering and Glatz specimen, sold under the name of "Lime Tonol" with extravagant claims as to its purity, contained a trace of chlorid, about 1 per cent. of calcium sulphate, 3.5 per cent. of alcohol-soluble matter, free acid equivalent to about 4 per cent. of citric acid, lost 3.2 per cent. of its weight when dried over sulphuric acid, gave 50.7 per cent. of ash on ignition and yielded 15.7 per cent. of calcium.

The Squibb specimen contained a trace of chlorid, 0.6 per cent. of calcium sulphate, 6.3 per cent. of alcohol-soluble matter, free acid equivalent to about 9 per cent. of citric acid, 14.5 per cent. of calcium, lost 2.9 per cent. of its weight when dried over sulphuric acid, and left 47.7 per cent. of ash on ignition.

The Merck specimen contained a trace of chlorid, about 0.25 per cent. of calcium sulphate, 7.5 per cent. of alcohol-soluble matter, free acid equivalent to 9.5 per cent. of citric acid, 14.2 per cent. of calcium, lost 3 per cent. of its weight when dried

over sulphuric acid, and yielded 47.8 per cent. of ash on ignition.

The examination showed that none of the specimens examined was completely soluble in water. Those which were most nearly soluble were such as contained considerable quantities of an organic acid. Two of the specimens contained considerable amounts of chlorid and four of them contained considerable quantities of sulphate. One specimen contained both chlorid and sulphate. The alcohol-soluble material ranged from 0.66 per cent. to nearly 7.5 per cent., the greater part of it, apparently, being citric acid. In other words, all of the specimens were decidedly impure in one or more particulars. On comparing the results found in the examination with the standards prescribed in the foreign pharmacopeias and pharmaceutical commentaries—there is no American standard—it was found that none of the specimens complied with all of the requirements in any one of these authorities.

That some of the manufacturers were aware of the poor quality of their products is shown by the occurrence on the labels of their specimens of such qualifying phrases as "Calcium glycerophosphate soluble" and "Glycerophosphate of lime, about 95 per cent."

The findings were submitted, with suggestions for standards and with a request for criticisms to the respective manufacturers, who were also asked to propose standards. Although the firms in a way acknowledged the general unsatisfactory condition of their products, they made no definite promises of improvement.

Thus, according to this examination the market supply, including the proprietary brand "Lime Tonol" for which extravagant claims of purity have been made, are all of inferior quality. The products contain considerable quantities of impurities such as sulphates, chlorids, and foreign sodium and calcium compounds, the presence of the latter in most cases having been disguised by the addition of citric acid. The composition is such that none of the products on the American market is entitled to the name "calcium glycerophosphate." The report also shows that though the manufacturers have in general acknowledged the poor quality of their product, they have shown considerable indifference concerning its improvement. Since they have been unable or unwilling in the past to supply calcium glycerophosphate of fair quality, there is little likelihood that a decreased demand, which may be expected since the demonstration of its small value, will offer an inducement to improve the quality in the future. In view of these conditions, it is recommended that calcium glycerophosphate be not described in New and Nonofficial Remedies.—
(From *The Journal A. M. A.*, July 13, 1912.)

CALCIUM PHENOLSULPHONATE (SULPHOCARBOLATE)**Report of the Council on Pharmacy and Chemistry**

A subcommittee of the Council submitted this report:

The Council having voted to consider the eligibility of calcium phenolsulphonate (calcium sulphocarbolate) for inclusion with New and Nonofficial Remedies, the product as it is found on the market was examined in the chemical laboratory of the American Medical Association, with a view of establishing standards for this substance. The laboratory now submits its findings in the matter which show that, largely as a result of its efforts, a product of satisfactory quality is now on the market.

The phenolsulphonates (sulphocarbolates) are, probably, not very valuable as therapeutic agents. Calcium phenolsulphonate has little to recommend it over the official sodium phenolsulphonate, and it may be held as an unnecessary duplication of an official substance; yet its provisional inclusion in New and Nonofficial Remedies is recommended since it contains two radicals (the calcium and the phenolsulphonic) often given in certain conditions, and it may for that reason be found to have some advantage over sodium phenolsulphonate. Further, if the product be described in New and Nonofficial Remedies and standards of purity for it provided, this will have the effect of improving the quality of the product on the market.

It is recommended, therefore, that calcium phenolsulphonate (calcium sulphocarbolate), with the description herewith submitted, be accepted as a non-proprietary article, and that the products of the Abbott Alkaloidal Co. and of the Mallinckrodt Chemical Works be listed.

In order that physicians may appreciate the work of the Association's chemical laboratory and recognize the influence which it exerts on the improvement of the quality of medicines, it is recommended that publication of this report and of the report of the chemical laboratory be authorized.

This report was adopted and in accordance therewith the description of calcium phenolsulphonate appears on another page of this issue and the report of the chemical laboratory is published below.

W. A. PUCKNER, Secretary.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

Calcium Phenolsulphonate

W. A. PUCKNER AND L. E. WARREN

The examination of calcium phenolsulphonate (calcium sulphocarbolate) was taken up at the request of the Council. Tentative standards for the substance were prepared and after

the examination of the specimens had been completed, these standards were submitted for criticism to several manufacturers of chemicals. At the same time the findings (for each manufacturer's product) which were not in accord with the proposed standards were submitted to the manufacturers interested.

The product was examined with reference to the residue on ignition, loss on drying at 100 C., freedom from arsenic and heavy metals, sulphates and uncombined phenol. Some of the specimens studied were purchased on the open market while others were furnished by the manufacturers.

These results of the examination are tabulated on page 33.

These results show that commercial calcium phenolsulphonate varies somewhat in purity and uniformity of composition. The formula commonly assigned to the salt in most text-books of pharmaceutical chemistry is $\text{Ca}(\text{C}_6\text{H}_5\text{O}_4\text{S})_2 + \text{H}_2\text{O}$. Theoretically such a salt should contain 4.45 per cent. of water and should yield 33.68 per cent. of residue on ignition. The above formula is given in Merck's Index (1907), yet the market product bearing the label of this firm was found to contain only 0.45 per cent. water and was therefore, not the monohydrated salt indicated by the formula.

The results of our examination were then transmitted to the firms whose products had been examined.

The Mallinckrodt Chemical Works, in replying, wrote that its manufacturing department was experimenting in an attempt to produce a phenol-free salt at moderate cost. Some time later a specimen of this firm's latest product was sent to the laboratory for examination. This specimen lost 0.44 per cent. of its weight on drying and the dried material yielded 35.24 per cent. of residue on ignition, results that were well within the limits suggested in the standards proposed. The specimen did not respond to the bromin-water test for phenols and both in color and odor was superior to the first specimen of this firm's that was examined.

The Abbott Alkaloidal Co., in submitting its brand of calcium phenolsulphonate, gave the same formula to indicate the composition of its product as is found in Merck's Index, namely, $\text{Ca}(\text{C}_6\text{H}_5\text{O}_4\text{S})_2 + \text{H}_2\text{O}$. When the specimen was dried at 100 C., however, it lost about 15 per cent. of its weight, showing that it had a much larger water-content than was claimed by the manufacturer. This result was verified also by the amount of residue found on ignition, which amounted to 30 per cent. of the weight of the undried specimen instead of 33.68 per cent. as is required by the formula of the salt containing 1 molecule of water. These laboratory findings were sent to the firm. No acknowledgment was received for nearly six months and then the company wrote questioning the chemists' results and asserting that its product contained "about 4.5 per cent." (theoretically 4.45 per cent.) of water

instead of the 15.1 per cent. as had been reported by us. This, of course, was a reiteration of the claim made at the time the product was submitted to the Council. In its letter, the company stated that it was sending another sample of calcium phenolsulphonate for further experimentation. This specimen lost 1.93 per cent. of its weight on drying and the dried material gave 35.15 per cent. of ash on ignition; it did not respond to the bromin-water test for phenol. These later

Brand	M. C. W.*	M. & Co.†	A. A. Co.‡	P. W. R.§
Water (Loss at 100 C.)..	0.42	0.45	15.13	0.41
Residue on Ignition. (Calculated from Dried Specimen	35.18	35.28	35.24	35.42
Color	Noticeably pinkish	Very faintly pinkish	Faintly yellowish	Faintly pinkish
Odor	Somewhat phenol-like	Distinctly phenol-like	Distinctly acetone-like	Odorless
Phenol Test.	Distinct precipitation	Distinct precipitation	None	Distinct precipitation

* M. C. W.=Mallinckrodt Chemical Works.

† M. & Co.=Merck & Company.

‡ A. A. Co.=Abbott Alkaloidal Company.

§ P. W. R.=Powers-Weightman-Rosengarten Company.

results indicated that, although the firm was ignorant of the composition of its own product, the second specimen complied with the proposed standard.

As the table shows, the products of Merck and Powers-Weightman-Rosengarten were both found to contain free phenol. These firms were advised of the laboratory's findings, but, beyond acknowledging the letters that were sent, they have taken no further action.

The results of the examination of calcium phenol-sulphonate illustrate what other examinations in the Association laboratory have so often shown, viz., that commercial products which are but little used and for which there are no authoritative standards for strength and purity, are also invariably unreliable in composition.—(From *The Journal A. M. A.*, Oct. 21, 1911.)

CINERARIA MARITIMA

Report of the Council on Pharmacy and Chemistry

Occasional inquiries in regard to the therapeutic value of *Cineraria maritima* caused the Council to consider the drug with reference to its fitness for inclusion in N. N. R. among non-official, non-proprietary remedies. The following report, having been submitted to the Council by a subcommittee, was adopted and its publication authorized.

W. A. PUCKNER, Secretary.

To the Council:—The juice of a plant referred to as *Cineraria maritima* was at one time supposed to be of value in the treatment of cataract and certain other affections of the eye. No scientific evidence is available to show that the drug is therapeutically active, and its value is no doubt correctly estimated by Dr. Casey Wood, who ("Ophthalmic Therapeutics," p. 446; Cleveland Press, Chicago, 1909) says:

"Still, a few respectable names have been associated with its [*Cineraria maritima*] employment in that capacity and it only remains to be said that the instillation into the conjunctival sac of a preparation of this or any other member of the *Senecio* family has about as much effect on the resolution or dispersal of opacities due to organic changes in the lens as pouring the same down the back of the patient's neck!"

The plant from which *Cineraria maritima* juice is claimed to be prepared is commonly referred to in literature as *Cineraria maritima*, but is more correctly described as *Senecio cineraria*, D. C.

It may be considered a matter of indifference whether a remedy like this be advertised for the treatment of such disease as cataract, providing its application could do no harm, but it must be remembered that it is recommended also for other diseases of the eye in which its use, by postponing efficient treatment, would be the means of serious damage or even loss of vision.

Since there is no evidence to show that this drug is of any therapeutic value, it is recommended that it be not admitted to the list of non-official, non-proprietary remedies in N. N. R., and that the Council formally expresses its opinion that the drug, as judged by the evidence which is available, is without value in the treatment of cataract or similar diseases of the eye.

EDITORIAL COMMENT: *Cineraria maritima* would long since have been relegated to the limbo of discarded and discredited drugs had it not been given a semiproprietary character by a St. Louis nostrum house—the Walker Pharmacal Company—which, like the Manola Chemical Company, is, we understand, practically a subsidiary concern of the Luyties Homeopathic Pharmacy Company. The Walker concern exploits this drug under the name Succus Cineraria Maritima (Walker). Its method of exploitation consists in publishing testimonials, which it dignifies with the name “clinical reports,” from men whom it designates as “representative physicians.” As indicative of what constitutes representative physicians, we find that of the seven testimonials given in their pamphlet the names of three of the signers are not to be found in any medical directory.

The exploitation of Succus Cineraria Maritima (Walker) is the oft-repeated story of the resurrection of discarded and worthless drugs for the purpose of creating proprietorship in a nostrum. *Cineraria maritima* is worthless; its therapeutic value is *nil*. By the prodigal use of printers' ink, the medical profession—and through it the public—has been humbugged into believing that it possesses curative value.—(From *The Journal A. M. A.*, Nov. 11, 1911.)

DIASTASE FERMENTS

Report of an Examination of the Diastase Ferments by the Council on Pharmacy and Chemistry

A subcommittee makes the following report to the Council with the recommendation that it be published:

Among medicinal agents which may be classed as legitimate pharmaceutical preparations few are more widely advertised than are the starch-digesting ferments, the diastases. Along with a number of very good preparations there are several for which grossly exaggerated claims are made, and which are advertised to the medical profession in such a manner as to lead to distrust. Those which have merit have not always been marketed by methods which are wholly free from criticism. In several cases the claims made are more than can be substantiated by actual tests.

There has always been some obscurity in the method of reporting the digesting value of these diastases, and just what is meant by starch conversion or sugar formation is not always clear. In other words, the claims of the manufacturers are frequently stated in terms which are too general.

To be of value statements regarding the digesting power of the diastases should be based on standard and uniform methods of testing. But manufacturers have followed different methods of examination, which naturally makes a fair comparison of products difficult, and in some cases impossible, for any one not conversant with the methods of analysis. Recognizing the importance of uniformity in such work the subcom-

mittee has had a large number of comparative tests carried out on the more important products of this class, employing several methods of analysis. In practice the diastatic action may be measured in terms of malt sugar formed from an excess of starch in a given time, or by the conversion of the starch to a point where the test with iodine shows the disappearance of the blue color, or the disappearance of all color. Results by these three methods are not directly comparable, although there must be some relation between them. Our first experiments were directed toward the clearing up of this point. These experiments were carried out largely by Mr. W. A. Johnson and the most important of them are given in detail in a paper which appears in the May number of the *Journal of the American Chemical Society*. From his numerous tests Mr. Johnson concluded that the best practical comparison may be made by carrying each digestion to the colorless end point, and in his paper certain suggestions are made as to the best methods of conducting the tests. These will be referred to below.

The following table contains the results obtained with a number of commercial products, when examined in this way, the digestions being continued through a period of ten minutes, at a thermostat temperature of 40 C. in all cases. All the products here examined came from the manufacturers, and the results were confirmed by tests on similar products bought in wholesale drug houses. The results are expressed in four ways for comparison as follows:

- A.—Parts of 100 % starch digested to colorless endpoint in ten minutes.
 B.—Parts of 92 % starch digested to colorless endpoint in ten minutes.
 C.—Parts of 85 % starch digested to colorless endpoint in ten minutes.
 D.—Parts of 85 % starch digested to loss of blue iodine reaction in ten minutes.

	A.	B.	C.	D.
Holadin	102.1	111.0	120.0	171.0
Taka Diastase.....	16.0	17.4	18.82	26.0
Taka Diastase Liquid.	0.38	0.41	0.45	0.61
Panase	113.0	123.0	133.0	203.0
Panase Essence.....	3.6	3.91	4.23	6.1
Vera Diastase Essence	4.2	4.55	5.0	6.7
Diazyme Essence....	6.12	6.66	7.14	10.3
Diazyme Glycerole...	6.12	6.66	7.14	10.3
Maltine, Plain.....	2.30	2.50	2.71	....
Maltzyme	2.87	3.12	3.37	....
Trommer's Extract of				
Malt, plain.....	0.65	0.71	0.77	....
Trommer's Extract with				
Cod Liver Oil.....	0.38	0.41	0.44	....

The blank spaces in the fourth column of figures indicate that no tests were satisfactorily completed here to show the conversion to loss of blue color. In fact, with highly colored mixtures this test is not as easily made as the other.

A comparison of the results given in the table with the statements which appear in the manufacturers' circulars, etc., show that the digestive values are all lower than claimed, if we base our comparison on the colorless endpoint reaction and anhydrous starch conversion. If, however, we carry the digestion merely to the loss of blue color, which seems to be the

case in some of the tests frequently cited, and employ starch with an average water content of about 15 per cent., a very different status must be reported. In this manner of reporting results five of the preparations show even more than the claimed values, but the method should not be tolerated for obvious reasons. The results actually found should always be calculated to anhydrous starch for reporting.

The discrepancies between the values claimed for Holadin, Diazyme Essence and Diazyme Glycerole and those actually found in our tests are not very great.

While one part of Holadin by the firm's method is stated to digest 135 parts of starch to the practically colorless endpoint, column C shows that by the method employed in these experiments only 120 parts of 85 per cent. starch were digested to the colorless endpoint. Similarly, while for Diazyme Essence and Diazyme Glycerole it is stated that 1 c.c. will digest 8 gm. "dry" starch to the colorless endpoint, the results given in the table above show that one part digested 6.12 parts of 100 per cent. starch to the colorless endpoint. This is equivalent to 7.14 parts 85 per cent. starch, the kind referred to by the manufacturer.

The claims made for Panase are somewhat misleading and conflicting. In a recent circular issued by the manufacturers a statement is made to the effect that one part of Panase "is capable of digesting at least 200 times its weight of starch in 10 minutes," while in another part of the same circular the complete conversion of 200 parts of starch into sugars is claimed as the work of 1 part of Panase. This claim is certainly wrong, as there is a wide difference between the two kinds of reactions. The figures in the table are sufficiently clear on this point, and suggest a proper modification of the claim to agree with the facts.

The widest discrepancy between the values as claimed by the manufacturer and those found by actual tests seems to be shown in the case of Taka Diastase. The liquid preparation has been tested a number of times in different samples and has always been found weak. Some samples, in fact, were quite inert. This ferment appears to lose strength very rapidly in solution, as the manufacturers now concede. The stability of the solid product is also far from satisfactory, and appears to be less than that of the ferment as marketed some years ago. The two samples examined recently were weak.

From a number of experiments made it appears that the stability of the diastase preparations from the pancreas is greater. In two tests of the Holadin, made some months apart, no appreciable change was noticed. The same thing is true of Panase and the earlier product of the same firm, Vera Diastase. But in the liquid form these preparations, like the Taka Diastase, seem to undergo some alteration in converting power, as the figures above, and others, suggest. Of the samples reported here the Vera Diastase essence was obtained fresh and examined at once, while the Panase Essence was on hand some time before the tests were made. According to the statement on the label the latter should be the stronger, but the reverse is the case. The Panase Essence seems to convert less than is claimed for it, while the Vera Diastase Essence converts more, if we consider 85 per cent.

starch and digestion to loss of blue color merely, as satisfactory conditions of the test. It is possible that the somewhat greater age of the Panase Essence may have some bearing on the result.

The two Diazyme preparations appear to be stable, as far as practical requirements are concerned. We have examined the contents of the same bottles of these products at periods three months apart, and found no changes in the starch-converting power. The claims for the numerical value of the diastatic activity and also for the stability which are made for these liquid preparations seem to be borne out by the facts as observed.

For the other liquid preparations, Maltine, Trommer's Extract, Plain, and Trommer's Extract with Cod Liver Oil, there are no exact claims as to the digestive power. For Maltzyme, it is claimed that 1 gm. has the power to produce from starch, in 30 minutes, at 37.8 degrees C., 6 gm. maltose. They contain large quantities of the products of enzyme digestion, and have relatively low residual digestive value. They should be classed among the so-called medicinal foods, rather than as agents of digestion.

In the experiments carried out by Mr. Johnson, referred to above, sugar determinations were made also, and these showed a close agreement with the starch conversion, carried to the colorless end-point. In making the tests for the sugar formation advantage was taken of the results of the other tests, and enough ferment was weighed out in each case to effect the hydrolysis of one gram of anhydrous starch to the colorless end-point in ten minutes. A series of tests was made on each substance with the same weight of ferment and starch paste, and at the end of 10, 30, 60, 120 and 180 minutes a flask containing the mixture was removed from the thermostat, and the amount of sugar formed, calculated as maltose, was determined. On removing each flask from the thermostat further action was always checked by immediate boiling. The amount of sugar formed at the end of ten minutes was essentially the same in all the samples tested, which included the first eight of the table above. For the gram of anhydrous starch, made up to a 2 per cent. paste, the maltose formed varied between 611 and 635 milligrams, which agrees very well with the usual findings for diastase digestion, under like conditions. There are many such results in the scientific literature.

In the longer periods, however, the amount of sugar formed by the Taka Diastase increased somewhat more rapidly than was the case with the other ferments, and the results of the determination after 180 minutes pointed to the evident conversion of some of the maltose into glucose. The mean value of the maltose formed by the other ferments in this time was about 860 milligrams, with variations from 855 to 872 milligrams, while for the Taka Diastase it was over one gram. But to secure these close results it must be remembered that very different amounts of the several ferments had to be taken at the start; that is, for the weaker digestants more, and for the stronger less was weighed out. The amounts taken varied inversely as their starch digesting activity, as shown by the first line of tests.

These relations may be illustrated by the figures in the following table, in which the first column gives the name of the substance, the second the number of milligrams actually required to convert 1 gram of starch to the colorless end-point in 10 minutes, and the third the weight of maltose formed in this time. The ferment substances were suspended in water and the proper volume was measured out to give the calculated weight. The sugar was found by titration with standard Fehling solution, and is calculated as pure maltose, proper allowance being made for the dilution of the titrated solution. The sugar amounts found under these conditions are essentially the same, but in producing the sugar 8.85 milligrams of Panase go as far as 9.79 milligrams of Holadin, 62.5 milligrams of Taka Diastase, 163.4 milligrams of the Diazyme liquids or 238.1 milligrams of the Vera Diastase Essence. In making comparisons by the table the fact must not be overlooked that the three preparations there last named are in solution, while the others are solids.

TABLE OF SUGAR FORMATION IN 10 MINUTES

*Column A gives the weight of ferment required in each case.
Column B gives the weight of sugar formed in each case*

	A.	B.
Panase	8.85	622 mg.
Holadin	9.79	634 mg.
Taka Diastase.....	62.5	611 mg.
Diazyme Essence.....	163.4	633 mg.
Diazyme Glycerole.....	163.4	635 mg.
Vera Diastase Essence.....	238.1	630 mg.

These results, which have been obtained many times in repeating the tests, show that the starch conversion to the colorless end-point, which is more easily and quickly carried out than is the sugar determination, gives a practically useful measure of the ferment activity, and a measure which bears a close relation to that of maltose formation. We, therefore, recommend the process for all the routine examinations of this nature which have to be made in the testing of the diastase ferments. As is explained in the article by Mr. Johnson, the process here employed was first suggested by Roberts for the examination of ferments of animal origin, and was later modified by Junck and by Francis, and applied to the ferments of vegetable origin. In our laboratory it has been submitted to critical revision with the object of securing greater accuracy through a fuller specification of details of manipulation. The most important points of the process are these, which are presented as easily and practically workable:

1. A clean grade of potato starch is thoroughly washed, first by decantation and then on a Buchner funnel. It is carefully dried at a low temperature, and finally at a higher temperature to a moisture content of about 10 per cent., the exact moisture content to be determined in a separate experiment.

2. For the actual tests about 22 grams of the starch is mixed with 100 c.c. of solid distilled water to make a uniform cream and then poured into 800 c.c. of boiling distilled water. The boiling is continued through ten minutes, and then enough water is added to make the actual starch content (anhydrous)

exactly 2 per cent. by weight. For each test quantities of exactly 50 grams of the paste are weighed into a series of 250 c.c. flasks, which are clamped in a large water-bath kept at a temperature of 40 degrees.

3. The iodine test solution is made by dissolving 2 grams of iodine and 4 grams of potassium iodide in 250 c.c. of distilled water; 2 c.c. of this solution is then diluted with pure water to make 1,000 c.c.

4. In making up the diastase solution the operator must be guided by the results of a few preliminary experiments in each case. For liquid malt extracts, for example, 10 c.c. diluted to 100 c.c. will generally be a proper strength, while in the examination of the dry preparations on the market 200 to 500 milligrams, dissolved or suspended in 100 c.c. of distilled water will usually answer.

5. These solutions are used in this way: Small definite volumes of the dilutions are added to the flasks containing the starch paste in the thermostat, and with the least possible loss of time. The mixtures are well shaken. The volumes added may be as follows, but all diluted to that of the largest volume before mixing: 1 c.c., 2 c.c., 3 c.c., 4 c.c., 5 c.c., 6 c.c., In about eight minutes tests are begun by removing volumes of 5 drops from each digesting mixture by a pipette and adding this to 5 c.c. of the dilute iodine solution in a clear white test-tube standing over white paper. It is best to have a row of these tubes mounted to receive the liquids to be tested. If at the end of ten minutes drops from one of the flasks fail to give the iodine reaction we are ready for a second and more accurate test. Weigh out now 100 grams of the paste into each of six flasks, and, assuming that the end-point in the first test was found between 4 and 5 c.c., add accurately to the six flasks these volumes of the diastase solution: 8 c.c., 8.4 c.c., 8.8 c.c., 9.2 c.c., 9.6 c.c. and 10 c.c. These volumes should all stand ready and all diluted to 10 c.c., so that they may be poured into the starch and shaken up without delay. They should also have the normal thermostat temperature of 40°, which precaution should be observed with the mixtures added in the first test. The tests with the iodine solution are repeated as in the first trial, and new limits are found between which the exact value must lie. For example, at the expiration of ten minutes the paste to which 8.8 c.c. of the diastase solution is added may show a faint yellowish dextrin color, while that with 9.2 is colorless. We may go further and try a series of new dilutions, but practically it is not necessary. In fact, we cannot carry our readings to a much finer degree of accuracy, because of the difficulty of distinguishing between the effects of dilutions so near together, in many cases. In a case like the above illustration it is sufficient to take the mean of the last named dilutions, and calculate the results to the basis of one part of ferment and the starch converted by it.

6. We have recommended potato starch because it is possible to obtain it in a satisfactory condition of purity. The commercial corn starch, even after washing, does not appear

to be suitable for the purpose. On microscopic examination the potato starch granules must appear clean and sharp.

The working method is seen to be simple, and if all the commercial diastase ferments are tested in this way their practical value may be easily compared. Until something better is proposed we believe the scheme as outlined may be safely followed, and that it will be perfectly fair to all concerned.

The above report was adopted by the Council, with the recommendation that before publication it should be submitted to the manufacturers whose products had been examined. The replies were reported to the Council by the subcommittee, and the following supplemental report was submitted to the Council and adopted:

This report has been submitted to the manufacturers of all of the articles described and opportunity given them to make any comment or criticism they saw fit to make. As might be expected, each firm was desirous of changing in some respect the wording of the report so far as it refers to the firm's products, but a careful consideration of these replies does not warrant the subcommittee in admitting the justness of any of the claims made.

Parke, Davis & Co. state that in testing their product, Taka Diastase, the reaction should be carried to the loss of blue color only, and claim that to digest to the loss of all color would work to their ferment "a very grave injustice." They say that "Taka Diastase is recommended, not for the rapidity with which it converts starch into maltose and dextrose, but rather for its usefulness in carrying cooked starch through the preliminary stages of digestion or hydrolysis with remarkable rapidity." The subcommittee fails to see the force of this argument, since what is desired in a diastase is conversion of starch into sugar. Besides this, Taka Diastase does not appear to be any more rapid in the preliminary stages than are some of the others, and in the advertising literature it is praised for its power of sugar formation, as are all the others.

In the comments offered by Frederick Stearns & Co. objection is made to the passage in the report in which we point out the discrepancy between the digestion of 200 parts by weight of starch in ten minutes and the conversion of 200 parts of starch into sugars. The firm promises to correct this discrepancy, which should have been done long ago.

Fairchild Bros. & Foster object most strenuously to the position given Holadin in the table, and insist that by *their* method of testing, the product has a higher value than we give it. This, no doubt, is true, but the subcommittee is not concerned with the firm's method of testing, and must be

allowed to employ its own, for the reasons pointed out in the report. The object is in part comparison, and for this uniformity of methods is necessary. In this connection it should be noted that in the past the firm has strongly favored the adoption of a uniform method of testing diastase products.

The manufacturers of Maltzyme write in a somewhat indefinite way of their disappointment in the findings of the report, but the letter calls for no special comment.

W. A. PUCKNER, Secretary.

(From *The Journal A. M. A.*, July 11, 1908.)

TAKA-DIASTASE AND LIQUID TAKA-DIASTASE

Report of the Council on Pharmacy and Chemistry

Some time ago it was decided that a reexamination should be made of Taka-Diastase and Liquid Taka-Diastase, both of which had previously been rejected, to ascertain whether or not the preparations were in accord with the claims made for them by the manufacturers. Accordingly, the matter was referred to a committee of the Council, and an examination of specimens of these two preparations bought in the market was made. The referee's report, which appears below, according to the usual procedure, and before final confirmation by the Council, was first submitted to the manufacturers of Taka-Diastase for comment. The report recommends that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand, and that the report be published. Parke, Davis & Co., in their reply, which is given in full below, claim that the report is unjust concerning Liquid Taka-Diastase, because the period of activity of the preparation has been greatly prolonged by reducing the amount of alcohol from 18 per cent. to 10 per cent. and by adding glycerin. They reiterate their claims for the digestive power of Taka-Diastase, but admit that it will not reduce the stated amount of starch to the colorless end-point in ten minutes (the standard method for the valuation of diastase). They further state that they would change the word "digest" on the label to "liquefy."

The conclusion of the report having been questioned, the entire matter was referred to a member of the Council's staff of clinical consultants. His report, which, also, is given in full below, states that the material before him was sufficient to decide the matter, and no further tests were necessary. He concludes that the claims of the manufacturers regarding the strength and properties of the material are erroneous and exaggerated; that the literature still sent out by Parke, Davis & Co. is misleading; and that if substitution of the word "liquefy" for "digest" were endorsed by the Council confusion would result which would give an exaggerated and false value to Taka-Diastase. He therefore recommends that the report of the reinvestigation of Taka-Diastase be accepted by the Council and published.

This report of the second referee was referred to Parke, Davis & Co. with the request that they state more definitely

the actual amylolytic strength of their preparations. To this they replied that they had no desire to discuss the subject further, or to make any additional statements.

In accordance with the second referee's recommendations, the Council confirmed its provisional action and voted that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand, and that the report which appears below be authorized for publication.

W. A. PUCKNER, Secretary.

REFEREE'S REPORT ON TAKA-DIASTASE AND LIQUID TAKA-DIASTASE

Following is the report of the committee to which was referred the reexamination of Taka-Diastase and Liquid Taka-Diastase:

Some time ago a comparison was made of the various methods proposed for the valuation of preparations claimed to have amylolytic power. This work was reported in *THE JOURNAL*,¹ and the method proposed for the testing of diastase preparations now appears in *New and Nonofficial Remedies*.² In view of the incorrect and exaggerated claims made for Taka-Diastase, the Council in 1908 was obliged to rescind its acceptance and to direct its omission from *New and Nonofficial Remedies*. The report contained the following reference to Taka-Diastase (Parke, Davis and Company), a product that had been accepted for inclusion with *New and Nonofficial Remedies*:

"The widest discrepancy between the values as claimed by the manufacturer and those found by actual tests seems to be shown in the case of Taka-Diastase. The liquid preparation has been tested a number of times in different samples and has always been found weak. Some samples, in fact, were quite inert. This ferment appears to lose strength very rapidly in solution, as the manufacturers now concede. The stability of the solid product is also far from satisfactory, and appears to be less than that of the ferment as marketed some years ago. The two samples examined recently were weak."

More than three years have now elapsed since the publication of the Council's findings regarding Taka-Diastase—sufficient time, it is believed, for the manufacturers to modify either their claims or the product itself, and thus again make it eligible for inclusion with *New and Nonofficial Remedies*. With this idea in mind new specimens of Taka-Diastase and Liquid Taka-Diastase were purchased from a Chicago drug house and the preparations reinvestigated. The following is the report of this reinvestigation.

1. *THE JOURNAL A. M. A.*, July 11, 1908, p. 140.

2. *New and Nonofficial Remedies*, 1912, p. 68; *THE JOURNAL A. M. A.*, April 15, 1911, Part 2, p. 18.

REPORT OF THE REEXAMINATION

In our report on the diastase preparations three years ago, it was recommended that Taka-Diastase be removed from New and Nonofficial Remedies, because the examinations showed that it did not have the digestive strength claimed for it. This was true both for Taka-Diastase itself and for Liquid Taka-Diastase. So far as the latter was concerned, the starch-converting power was practically *nil* in those preparations which had been in the drug stores for some months.

During the last few weeks new tests have been carried out with several samples of the Taka-Diastase preparations and the results obtained are essentially the same as those obtained in the former examinations. The liquid preparation is still extremely weak in starch-converting power, while we found that Taka-Diastase itself would convert only 16.6 parts of pure anhydrous starch to the colorless end-point in ten minutes, as explained below.

In our method of experimentation we determine the weight of the diastase in question which will convert a given weight of starch in uniform paste to the so-called colorless end-point in ten minutes, that is to the point where it will no longer give any color reaction with a standard iodine solution. The standard starch weight in 50 c.c. always is 1 gm. or 1,000 mg. and to a series of flasks containing this amount of starch, maintained at a constant temperature of 40 C., the diastase dilutions are added. These diastase dilutions are made by dissolving small, accurately weighed amounts of the sample in some small, constant volume of water, usually 5 or 10 c.c. and they are then poured into the starch flasks at the right temperature, and agitated regularly.

Tests are made by taking a few drops from each flask and mixing with the iodine solution. The end-point is reached when a dilution is found which, at ten minutes from the mixing time, gives no color with the iodine reagent. The first set of tests is taken as a general guide, and quite accurate results may be obtained in a second set of dilutions.

We first used a sample of Taka-Diastase bought in the open market. It was found that 140 mg. were required to convert the gram of starch as explained. This is equivalent to a conversion of 7.14 parts of starch by 1 part of the Taka-Diastase.

A new, and possibly fresher, sample was then obtained and the test repeated. With this new sample it was found that 60 mg. were necessary to convert the gram of starch to the colorless end-point in ten minutes, from which it follows that 1 part of the ferment will convert 16.6 parts of starch to the colorless end-point in the same time. With a new sample of Liquid Taka-Diastase obtained simultaneously it was found that 3.5 c.c. were necessary to convert 1 gram of starch to the colorless end-point in ten minutes. As a fluidounce of this liquid is said to contain 20 grains of the solid it will be seen that the results approximately agree with those of the first sample of the solid, and that they are both very low.

In the earlier tests 16 parts of starch converted by 1 part of the ferment was the value found. These results are in close agreement with values reported by Sherman (*Jour. Am.*

Chem. Soc., xxxii, 1073) for a sample of recent purchase. He found a conversion of 51 parts of starch to the colorless end-point in *thirty* minutes for one sample, while for another he found 66 parts, in the same time. It will be noted that our time limit is *ten* minutes. It is worthy of note that for a perfectly fresh and specially prepared sample furnished by Dr. Takamine, a conversion of 278 parts in *thirty* minutes was found by Sherman. Taking the time into consideration it will be seen that the results are about the same for the market samples as those found by us and much lower than claimed, as well as much lower than for other makes of similar products. The difference in the behavior of fresh specially prepared Taka-Diastase and the market sample is very clearly shown. No one questions the fact that fresh laboratory samples of Taka-Diastase may show a moderate converting power on starch. But we have to deal with the *activity of market samples only*, and Sherman's work and our own show the low digesting power of the product as physicians may secure it on the market.

The marked difference in activity between perfectly fresh and ordinary market samples of Taka-Diastase is very clearly shown also in a recent paper published by Wohlgemuth.³ In the digestion of starch paste to the "dextrin" stage Wohlgemuth found in the commercial sample a strength approximately a hundred times less than that observed in a fresh sample sent him by Dr. Takamine.

Wohlgemuth's results were obtained by a method not essentially different from ours, with this difference, however, that he digested through 24 hours in the cases reported, and carried the reaction to the "dextrin" stage only, in place of to a colorless end-point. Making the proper reductions it is evident that the actual values found by him for the market samples bought in Germany are not greater than those reported by us.

The reference to the work of Sherman is made because, in a following paper in the same journal, he recommends the use of salt as an activator in finding the strength of certain diastase preparations. It is well known that dialyzed diastase preparations and starch of highest purity have but slight action on each other; a little salt increases the activity greatly, and also increases the activity of commercial diastase preparations. These facts Sherman utilizes in working out a method for valuation of commercial diastases. The facts were well known to us at the time of our former report, but it was not thought best to depart from the general method which had been in use by all analysts following the general scheme of Roberts. Quite recently, I. Bang has published a paper on the investigation of diastase (*Biochem. Ztschr.*, xxxii, 417) in which he studies the behavior of sodium chlorid and other salts on the rapidity of starch conversion, and finds that a much smaller amount of salt than Sherman recommends brings the maximum increase.

The method employed in our former tests is a good comparative method, and that is all that may be claimed at present for any method. By adding salt to our starch solution the activity of Panase and other ferments is likewise greatly in-

3. Wohlgemuth: *Biochem. Ztschr.*, March 18, 1912.

creased. For Panase, a preparation possessing rather high starch-converting power, we have recently found an increase of about 30 per cent. in the converting power, with salt present. Working to loss of blue color, merely, it is possible in this way to get a higher value than that claimed by the manufacturer. There is no practical gain in using the salt for our purpose as the methods are at best arbitrary, and the results only comparative.

Taking all the facts into consideration it is recommended that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand and that, in view of their extensive exploitation, this report be authorized for publication so that physicians may know the facts.

This report was referred to Parke, Davis & Co., and they made the following reply:

"The report submitted in your letter of the 23d is, we contend, erroneous and unjust: first, to our Liquid Taka-Diastase, because over three years ago we changed our formula, reducing the alcohol from 18 per cent. to 10 per cent., increasing the glycerin and thus prolonging greatly the period of activity.

"As for our regular Taka-Diastase, our claim is and has been for years simply that Taka-Diastase will digest or hydrolyze 150 times its weight of starch in ten minutes, under proper conditions. • We do not claim, we do not permit our representatives to claim, that Taka-Diastase will completely transform starch, to the colorless end-point, into sugars. Taka-Diastase is used to supplement a deficiency of ptyalin and converts the starch into soluble material with great rapidity, thus giving the gastric fluid immediate access to the proteids.

"If in the enclosed labels the word 'digest' were replaced with the word 'liquefy,' the claim could not be assailed by the most earping critic. To save any possible question, we shall therefore make this change in our label, having it read: 'Taka-Diastase will liquefy 150 times its weight of starch in ten minutes, under proper conditions.' Is there the slightest question in your mind that this statement as just quoted is entirely correct and entirely supported by clinical experience?

"It is our conviction that Taka-Diastase has a very remarkable power to hydrolyze starch either in the test-tube or in the stomach, and that this property is of great utility in clinical work. We do not claim that its conversion of the starch into sugars is complete, to the colorless end-point of the Johnson test; and on this point we have been perfectly frank with the Council, as well as with every physician who has taken sufficient interest to inquire."

In view of the above protest, the matter was submitted to a second referee, who reported as follows:

"Your referee on the matter of Taka-Diastase has made a careful investigation of the reports and correspondence submitted, and begs to make the following report:

"The question at issue, viz., whether Taka-Diastase should be included in New and Nonofficial Remedies, I believe, can

be determined by the material before me, and further tests of the material are not necessary.

"The letter of the makers of Taka-Diastase admits that the early claims regarding the strength and properties of the material were erroneous and exaggerated. Since the product was once admitted to New and Nonofficial Remedies, it may be claimed that as the Council on Pharmacy and Chemistry must have been in error then, it may be now. Your referee does not consider this supposition worth discussing. The conclusion he draws is that the Council was too hasty in accepting the preparation, and that the incident shows how much better it would be in all cases to accept no remedy until sufficient time has been given for conclusive tests.

"The literature still sent out by Parke, Davis & Co. regarding Taka-Diastase is misleading and of a kind more appropriate for a nostrum than a standard chemical substance. What would we think if morphin, quinin or even heroin were advertised in the same way? I cite the statement, 'Taka-Diastase digests starchy food with vigor and directness.' It seems to the referee that the proposition to modify the label to indicate the amount of starch which is liquefied rather than the amount which is saccharified, in accordance with the Council's standard, is bound to lead to confusion and to give an exaggerated and false value to Taka-Diastase.

"Your referee recommends that the report of the reinvestigation of Taka-Diastase which has been submitted to me, be made available to the medical profession, and that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand."

This report of the second referee was submitted to Parke, Davis & Co., with the request that they state more explicitly their claims regarding the activity of Taka-Diastase and Liquid Taka-Diastase, in order that, if they decided to revise their claims for the preparations, such revision of claims might be published along with the reports of the Council. They replied:

"Answering your note of the 15th instant: We have no desire to discuss further the subject of your letter of February 24, or to make any statement beyond that set forth in our letter to you of Dec. 27, 1911."—(*From The Journal A. M. A., July 6, 1912.*)

DIORADIN REFUSED RECOGNITION

Report of the Council on Pharmacy and Chemistry

A preparation called Dioradin was placed on the market as a cure for consumption three years ago in Europe and somewhat later in this country. It was first submitted to the Council in July, 1911. Because of the manifestly unwarranted claims made for its use in the treatment of tuberculosis, the Council voted that the product be refused recognition for conflict with Rule 8, without at that time taking under consideration the question whether or not it was in conflict with other rules of the Council.

In June, 1912, further consideration of Dioradin was requested. The American agent having promised a reform in the methods of advertising, the Council considered the available evidence regarding the identity and value of the preparation. Examination of evidence regarding the composition of Dioradin—claimed to consist of radium chlorid, iodoform and menthol in an ether-oil solution—showed serious discrepancies as to the amount of radium as well as to the identity and amounts of other constituents. It was further found that the experimental evidence was insufficient and biased. Then, too, in view of the difficulty of judging the effects of medicines in tuberculosis, the clinical data were unconvincing. There was nothing to prove that the reported improvements, even if they actually occurred, were to be ascribed to the mixture as a whole rather than to any one of its constituents.

As a result of these findings, the Council voted that Dioradin be refused recognition and that the publication of these facts be authorized. In accordance with its regular procedure, it also submitted the report to the agent. In reply the agent submitted evidence which showed that he was not responsible for the misstatements about Dioradin but offered no facts that affected the Council's findings.

The entire matter having been referred to a second referee, minor modifications of the first draft of the report were authorized. Since then the Dioradin Company has submitted two reports of examinations of Dioradin made for the company in Germany showing a higher radium content than that previously found. These reports do not alter the facts brought out in the report of the Council that the composition of Dioradin has been variable, which past variability arouses a feeling of uncertainty or lack of confidence. In view of this the amended report was ordered published and appears below.

W. A. PUCKNER, Secretary.

FIRST SUBMISSION OF DIORADIN

Dioradin, a preparation for the treatment of consumption originated by Dr. R. de Szendeffy, Budapest, Hungary, was submitted to the Council by Louis Gero, Ltd., New York, with the following statement of composition:

"A radio-active preparation of Menthol, Iodin and Radium Barium Chlorid 1/10 of a drop; in ether solution."

A circular which accompanied the submission stated:

"Preparation No. 3 of Dioradin contains not only terpins but also iodine salts . . . In view of the fact that emanations of the radium as well as the combinations of the evasive iodine terpins enter into the organism through the lung . . ."

Later these indefinite statements of composition were supplemented by the following:

"In 100 c.c. there are:

1 gr. Iodoform.

5 " Menthol.

10 drops Radium chlorid solution (1 milligr. in 100 c.c. of water).

5 gr. ether.

90 " Oil (ol. amygd. frlg. press)."

In a circular contained in the package these claims were made:

"The preparations of the Dioradin are based on the miraculous effects which scientific researches have shown in regard to the different sicknesses treated with radium.

"It is generally known that radium, even if externally employed, has proved itself to be a bactericidal remedy. Its effect is multiplied if one employs it internally even in infinitesimal doses, in consequence of its permanent action of emanation on the organism.

"The preparations of the Dioradin contain the radium itself. For this reason their antiseptic and bactericidal effect is much more intensive than with medicaments which contain only its emanation, which disappears in a short time."

In view of the general extravagance of the claims made for its therapeutic action the preparation was rejected without considering other possible conflicts with the rules of the Council.

SECOND SUBMISSION OF DIORADIN

Having been advised of the rejection by the Council of Dioradin the American agency, which in the meantime had become the Dioradin Co., requested further consideration. The Council therefore took up the subject again. After certain typographical errors had been corrected the following was now given as the composition:

"1 gram Iodoform.

5 grams Menthol.

10 drops Radium Chlorid Solution (containing 1 milligram of radium chlorid in 100 cubic centimeters of water).

5 grams Ether.

89 grams expressed oil of almond.

This liquid is put up in ampules containing one cubic centimeter of liquid."

In support of the therapeutic claims for Dioradin the American agent submitted literature consisting chiefly of articles by Dr. Bernheim of Paris. Before reporting on the requested reconsideration of Dioradin the referee directed the secretary of the Council to point out to the American agent that in the formula given, the amount of non-volatile matter should be about 90 per cent., whereas the report of the Lederle Laboratories which accompanied the request for reconsideration states that but 72.08 per cent. was found in the analysis. In reply the agent stated that he had called the attention of Dr. Szendeffy (the originator of Dioradin) to the discrepancies concerning non-volatile matter and that he felt sure the discrepancy was wholly accidental (*sic*). In a later communication the agent submitted a statement of analysis from the Lederle Laboratories of a new specimen of Dioradin according to which the amount of non-volatile matter agreed essentially with the amount claimed by the agent.

The referee, having examined the evidence, is of the opinion that the statement of composition is misleading and that the therapeutic claims are unwarranted, thus:

DISCREPANCIES IN RADIUM CONTENT

The chief claims for its therapeutic value are based on the radium content, yet the discrepancies and contradictions regarding this are serious.

In connection with the reconsideration of this product the agent presented a certificate of chemical examination by the Lederle Laboratories in which the following statement was made as to the radio-activity:

"Examination shows the preparation to possess slight radio-activity, corresponding in activity to less than 1-10,000 of 1 milligram of radium bromid per ampule. According to the sworn statement of Dr. A. de Szendeffy, the originator of Dioradin, the preparation contains 10 drops of radium chlorid solution (1 milligram in 100 cubic centimeters of water) in 100 cubic centimeters of the preparation. This would correspond to 5-1,000 milligram of radium chlorid in 100 cubic centimeters or about 1-20,000 of 1 milligram per ampule."

A cursory reading of this paragraph gives the impression that Dioradin possesses fully the amount of radio-activity claimed by its originator, Dr. A. de Szendeffy. This impression is greatly strengthened by the concluding paragraph of the Lederle report, which says:

"In conclusion, our examination shows that the preparation submitted to us as Dioradin possesses radio-activity, and contains a fixed oil (apparently expressed oil of almond), iodoform, menthol and ether, thus confirming the sworn statement of Dr. A. de Szendeffy in regard to the composition of this product."

On inquiry as to the method used by the Lederle Laboratories, in determining radio-activity the agent submitted a further statement from the Lederle Laboratories which describes the gamma ray test by which the determination was made and a radium value equivalent to 0.000041 mg. of radium bromid per capsule was obtained. The report then says:

"The variations of the single measurements from the mean in the case of the natural leak and the leak with the Dioradin near were so large that we did not feel justified in assigning much accuracy to the figure, 0.000041, but stated that the amount of radium per capsule could not be greater than 0.0001 mg., with the possibility of there being a much smaller amount present."

It is evident that the wording of the reports of the Lederle Laboratories is liable to give the impression that their examination confirms the claims made for Dioradin.

It is further evident from these reports that the amount of radio-active matter has not been definitely ascertained but that it is at the best very small. The unreliability of the claims for radium content of Dioradin was recently shown by Buechner,¹ who found a specimen obtained from an apothecary to contain but 1-1000 of the amount claimed.

VOLATILE AND NON-VOLATILE MATTER

The varying claims regarding the content of volatile and non-volatile matter throw doubt on the entire composition of

1. Buechner: Pharm. Weekblad, March 2, 1912, p. 161.

Dioradin, for if the statement as to these is wrong the rest of the statement regarding composition cannot be given credence.

In the first submission of Dioradin about 89 per cent. of non-volatile matter was claimed but in the report of the analysis by the Lederle Laboratories, which accompanied the resubmission, only about 72 per cent. was found. Later the Lederle Laboratories reported that an examination of a new specimen of Dioradin had shown about 90 per cent. of non-volatile matter. The discrepancies between the composition claimed for Dioradin and that found for the product in the first Lederle report has shown that the agent was quite ignorant of the composition of the product which he was selling.

INDEFINITENESS OF THE IODIN CONTENT

The label on the trade package of Dioradin first submitted to the Council stated that the product contained iodoform; a similar statement was made in the submission of the product; the circular accompanying the first submission stated that "iodin salts" were contained in the product while the iodine content was referred to further on in this circular as "combinations of evasive iodine terpins." In Bernheim's papers, which have been used to advertise Dioradin, and which are referred to in the same circular, the iodine compound is called "iode peptonisé," which, according to information stated by the American agent to have come from Budapest, is to be translated "iodized peptone." What is the meaning of this confusion? One would naturally suppose that the preparation to be sold in this country contains iodoform in an ether-oil solution while the one used by Bernheim and Dieupart² was stated to contain an *ethereal* solution of "iodized peptone." This is another mystification, for an ethereal solution of any kind of peptone would be a novelty. The matter is of some importance, for Bernheim and Dieupart lay great stress on the difference between "peptonized iodine" and other iodine (loc. cit., p. 333) and of the superiority of ethereal over oily solutions (loc. cit., p. 334). The American agents, however, in the second submission, state that this is all a mistake; that the Dioradin used by Bernheim is the same Dioradin which was submitted to the Council; and that this does not contain, and never did contain, the ethereal solution of "iode peptonisé" to which Bernheim attached so great importance. Bernheim (report to Medical Congress of Lyons) himself has come to the same conclusion; for five months after his first paper he believes that the "special salt of radium" (*sic*) is the principal agent; so that the "peptonized iodine" must be unimportant, and in a cablegram of July 4, 1912, he now informs the Dioradin Company

2. Bernheim and Dieupart: *Revue Internationale de la Tuberculose*, May, 1911, p. 336.

that the formula was incorrectly given in his first papers "owing to my ignorance of actual composition;" and that all the Dioradin used by him was of the composition stated in the submission to the Council.

While this vindicates the good faith of the American Dioradin Company, it does not clear up the mystery. The question occurs at once: What led Dr. Bernheim to make such positive statements? Was he drawing purely on his imagination? If so, why did his imagination take this peculiar, special direction? Or if he did have some reason to imagine the "iode peptonisé," who supplied this reason? And if, at that time, he was given to understand by Szendeffy, who must have supplied him with the material, that it contained the iodized peptone, how can he be positive at this time, that it did not contain it? Has he actually analyzed the old material?

There is also a further question which needs to be answered. Why has Dr. Szendeffy waited until Dioradin was rejected by the Council before correcting Bernheim's serious misapprehension, in the meantime permitting the circulation of Bernheim's paper?

Until these questions have been satisfactorily answered, the element of mystery about the composition of Dioradin cannot be cleared away.

EXPERIMENTAL EVIDENCE

The available experimental evidence regarding "Dioradin" is restricted to some quotations from its inventor Szendeffy, in the paper of Bernheim and Dieupart (p. 334). These, if confirmed, would show that radium alone has practically no effect on cultures of tubercle or colon bacilli; that 0.1 gm. of "iode-menthol" (concentration not stated) checks the growth of the acid-fast organisms; and that this antiseptic efficiency can be nearly doubled by the addition of a little radium. No quantitative data are given, so that it is difficult to judge the accuracy of the observation. Granting that it is correct, it would have little bearing on the therapeutic actions of Dioradin, for there is nothing to show that the effective test-tube concentration is reached in the pulmonary tissues.

It is also claimed that the injection of Dioradin prevents tubercle infection. The referee believes that the Council and the medical profession should hesitate to accept this conclusion without further details; and these would require confirmation by unprejudiced observers.

CLINICAL EVIDENCE

The Dioradin Company submits considerable clinical data in favor of Dioradin. It must be remembered that most favorable opinions have been published, from time to time, about scores of "consumption cures," which have mysteriously lost their efficiency when their novelty wore away. There is no more reason to doubt the good faith of those who are

enthusiastic about Dioradin than of those who have been enthusiastic about other "cures." There appear to be features in the course of tuberculosis which make the judgment of therapeutic measures peculiarly difficult. It is possible that impartial clinical trials of Dioradin by tuberculosis experts appointed by the Council might facilitate judgment as to the actual efficiency of Dioradin. The referee doubts, however, whether this would advance the Council very much toward the acceptance of the substance. Such an investigation would be so lengthy, that it should not be undertaken until the Dioradin Company itself has offered at least presumptive evidence in this direction, especially in view of the adverse report recently made by Cecil Wall.³ Ten tuberculous patients were treated by Wall in strict accordance with the method outlined to him by Bernheim, yet Wall concludes that none of the cases, though treated accurately in accordance with the instructions, can be quoted to justify any of the claims for the therapeutic efficiency of Dioradin. The Council cannot undertake lengthy investigations of this character, until it is put in possession of data which would show to its satisfaction that such investigations would probably be fruitful.

CONCLUSIONS

From investigations made, it appears that the claims in regard to the composition of Dioradin have contained vague statements and contradictions which arouse a feeling of uncertainty and lack of confidence. Until this uncertainty is cleared away, Dioradin cannot be considered as complying with Rule 1. The experimental data are insufficient and unconvincing. Some favorable clinical reports have been submitted, but the accuracy of the observations is to be questioned and they are more than offset by the negative results observed by Cecil Wall. As might be expected, other negative results, if observed, have not been submitted and there is nothing in the manufacturer's claim to show whether the improvement reported is really due to the peculiar mixture called Dioradin or to any one of its ingredients.

It is therefore recommended that Dioradin be not accepted for New and Nonofficial Remedies. In view of the extensive advertising of this preparation and because of the admittedly incorrect statements in the earlier papers it is recommended that publication of this report be authorized.—(*From The Journal A. M. A., Oct. 26, 1912.*)

ECHINACEA

Report of the Council on Pharmacy and Chemistry

The Council has voted to reject several non-proprietary articles and has recommended that the reasons for their rejection be given in THE JOURNAL; among these is echinacea. The

3. Wall, C.: Brit. Med. Jour., July 20, 1912, p. 109.

following paper has been submitted by a subcommittee with the recommendation that it be published. This recommendation was adopted.

W. A. PUCKNER, Secretary.

Echinacea

When this drug was first introduced, it was a typical nostrum, with exaggerations regarding its therapeutic value that were somewhat more gross than usual. It was later adopted by the eclectic school without being freed from the stigmata of its origin. It was also pressed into use as the main ingredient of such proprietary preparations as echafolta, ethol eusoma, etc. Efforts have been made to get the regular profession to use it in these various forms.

According to J. U. Lloyd (*Pharm. Review*, vol. xxii, p. 9-14), the introduction of echinacea into eclectic medicine is due to the efforts of Dr. H. F. C. Meyer to increase the sale of Meyer's Blood Purifier, a secret remedy containing it. The following is a literal copy of the label on this nostrum:

MEYER'S BLOOD PURIFIER

DIRECTIONS

This is a powerful drug as an Alterative and Antiseptic cases: *Rheumatism, Sick Headache, Erysipelas, Dyspepsia, Old Sores and Biles, Open Wounds, Dizziness, Scrofula and Sore Eyes.*

In case of *Poisoning by Herbs, & C.*, take the double dosis, and *Bites of Rattlesnakes* take three ounces three times a day, until the swelling is gone. This is an absolute cure within 24 hours.

After Lloyd had identified the plant, Meyer put the preparation out under another form with the following label:

ECHINACEA ANGUSTEFOLIA

This is a powerful drug as an Alterative and Antiseptic in all tumorous and Syphilitic indications; old chronic wounds, such as fever sores, old ulcers, Carbuncles, Piles, eczema, wet or dry, can be cured quick and active; also Erysipelas. It will not fail in Gangrene. In fever it is a specific; typhoid can be adverted in two to three days; also in Malaria, Malignant, Remittent and Mountain fever it is a specific. It relieves pain, swelling and inflammation, by local use, internal and external. It has not and will not fail to cure Diphtheria quick. It cures bites from the bee to the rattlesnake, it is a specific. Has been tested in more than fifty cases of mad dog bites in human and in every case it prevented hydrophobia. It has cured hydrophobia. It is perfectly harmless, internal and external.

Dose.—One half to one fluid-drachm 3 or 4 times a day.

Manufactured by H. C. F. Meyer, M.D.

PRICE, \$
Patent

PAWNEE CITY, NEB., U. S. A.

These absurd claims of an evidently ignorant man have passed into the more recent proprietary advertising matters and into much of the eclectic writings. Indeed, the seemingly

impossible has been attained by even surpassing Meyer's all-but-all-embracing claims. Not content with endorsing echinacea as a positive and speedy "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia, later enthusiasts have credited it with equally certain curative effects in tuberculosis, tetanus and exophthalmic goiter, and with the power of retarding the development of cancer.

It is worth noticing—although it is not surprising—that these far-reaching claims have been made on no better basis than that of clinical trials by unknown men who have not otherwise achieved any general reputation as acute, discriminating and reliable observers. No attempt seems to have been made to verify these claims by accurate scientific methods, clinical or otherwise, although this could very easily have been done.

Not one of the eulogistic reporters and exploiters seems to have considered it worth while to determine by the simplest control experiments whether the drug possesses any bactericidal or antiseptic powers whatever. It is therefore not very strange that discriminating physicians have failed to show much enthusiasm. One of the warmest endorsers of echinacea, C. S. Chamberlain (who later became the president of the Eusoma Pharmaceutical Company), complains that he has been unable to interest regular physicians in the remedy. He reviews the statements of previous authors and reports eight cases of infection, only two being acute or extensive, in which he used it with asserted success.

In view of the lack of any scientific scrutiny of the claims made for it, echinacea is deemed unworthy of further consideration until more reliable evidence is presented in its favor.

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ERPIOL (DR. SCHRADER)

Report of the Council on Pharmacy and Chemistry

The original rules of the Council governing the acceptance of articles have recently been modified, particularly by adoption of Rule 10, which reads:

"Unscientific and Useless Articles.—No article will be admitted which, because of its unscientific composition, is useless or inimical to the best interests of the public or of the medical profession."

In view of these modifications, the Council is reconsidering the articles already accepted with the view of determining their compliance with the rules as amended. In line with this the Council reconsidered Erpiol (Dr. Schrader), manufactured by the William S. Merrell Chemical Company, and from the evidence given below concluded that one of the constituents, gossypin, is inert and its use unscientific. The Council therefore voted that Erpiol (Dr. Schrader) be omitted from New and Nonofficial Remedies and authorized publication of the following report.

W. A. PUCKNER, Secretary.

Erpiol

In consequence of the more thorough scrutiny now given by the Council to the therapeutic value of the remedies admitted to New and Nonofficial Remedies, the Council has reconsidered Erpiol (Dr. Schrader), previously accepted for New and Nonofficial Remedies. Erpiol (Dr. Schrader) is the name applied to capsules containing apiol, ergotin and gossypin, which are sold as an emmenagogue. The first two ingredients have a recognized value in the treatment of diseases of the female generative organs. The third, gossypin, is a preparation from cotton-root bark, belonging to the somewhat indefinite class of pharmaceutical preparations known as resinoids.

Cotton-root bark (*Gossypii radice cortex*, U. S. P.) has been credited by some with pharmacologic and therapeutic properties, similar to ergot, especially in its action on the uterus; experiments on pregnant animals do not confirm this view. Most authorities on gynecology either make no reference whatever to the drug or ascribe little or no value to it. The preparations from the dried bark are inert.

From reports made to him, Professor J. U. Lloyd concluded (*Eclectic Med. Jour.*, 1876, xxxvi, 545) that a prime fluidextract of fresh cotton-root bark is an active therapeutic agent and deserving the attention of the medical profession, while that of the dry bark is inert and worthless. The gossypin on the market is made from the dried bark.

Professor Lloyd, who is considered an authority on eclectic medicine, says: "Were it left to me to admit or exclude it by reason of its therapeutical position, I should exclude it, because, in my opinion, it has never been demonstrated, in clinical practice, to be worthy of any therapeutic recognition whatever."

As the available evidence indicates that gossypin is an inert preparation, Erpiol (Dr. Schrader) was considered in conflict with Rule 10 and the Council has therefore voted that it be deleted from New and Nonofficial Remedies.—(*From The Journal A. M. A.*, June 3, 1911.)

FALSE UNICORN (HELONIAS)

Report of the Council on Pharmacy and Chemistry

The Council voted to refuse to recognize false unicorn as a non-proprietary article and the following statements, submitted by a subcommittee, were ordered published.

W. A. PUCKNER, Secretary.

False Unicorn—*Helonias*

Helonias dioica, or more properly *Chamaelirium luteum*, is a plant, preparations of which enter into various proprietary mixtures for diseases of the female pelvic organs. In the advertisements of these preparations it is usually credited with hemostatic powers and is asserted to be a uterine tonic.

There is practically no reference to this drug in reliable medical literature, and as there is no evidence worthy of credence to support the claims made for it, the drug was not considered deserving of a place in the Pharmacopeia. Hence, it may be regarded as a drug not worthy of attention of physicians.—(From *The Journal A. M. A.*, Nov. 27, 1909.)

FORMUROL

Report of the Council on Pharmacy and Chemistry

Formurol, Citrocoll and Aspirophen were submitted to the Council by the Cellarius Company of San Francisco. The manufacturers having failed to substantiate the claims they make for these products, the Council has voted that the preparations be refused recognition. The Council also authorized the publication of the following report, which deals particularly with one of the preparations—Formurol.

W. A. PUCKNER, Secretary.

Formurol is the product of the Chemische Fabrik Falkenberg, Falkenberg-Gruenau, near Berlin, Germany. The Cellarius Company, San Francisco, acting as selling agents for the United States, submitted Formurol (along with Aspirophen and Citrocoll, also made by the same firm) to the Council, with the statement that it is "hexamethylentetramin-sodium-citrate," and that it has the following composition: " $C_6H_{12}O_7Na.C_6H_{12}N_4$."

Zernik,¹ who examined these products, reported that Aspirophen, Citrocoll and Formurol do not have the composition that is claimed for them by the Fabrik Falkenberg. Formurol, he states, is not a definite chemical compound, but a mixture of hexamethylenamin and sodium citrate. The agents were advised of this fact by the Council and were asked to submit evidence to substantiate their claims. No such evidence was submitted.

Since a compound having the composition that is claimed for Formurol is theoretically possible, the Council requested that the product be examined in the Association Laboratory to determine whether it still was the simple mixture reported by Zernik, or whether, perhaps, it now possessed the formula claimed for it. The following report was made by the Association chemists:

1. Zernik: Arb. a. d. Pharmazeut. Inst. d. Univ. Berlin, 1907, iv. 46.

Formurol, as submitted to the Council, was in the form of tablets weighing about 1 gm. each and appeared to be composed of a fine white substance interspersed with some transparent particles. The tablets were readily soluble in water, were odorless and possessed a slightly acid taste. The aqueous solution responded to tests for hexamethylenamin, citrate and sodium. To determine whether hexamethylenamin was present in the free or the combined state, the method of Zernik was employed. This consists in the extraction of Formurol with chloroform, which dissolves out hexamethylenamin, leaving insoluble sodium citrate. As the use of the solvent, chloroform, would seem to preclude decomposition of such a hypothetical compound as "hexamethylenamin-sodium-citrate," the extraction of hexamethylenamin from Formurol may be taken to demonstrate its presence in the free state.

That Formurol is not a compound of hexamethylenamin, but a mixture of hexamethylenamin and sodium citrate, was further indicated by the appearance of the crushed tablets described above. Further, under the low-power microscope the powder was found to be composed of transparent crystals and white opaque particles which appeared to be masses of minute crystals. When treated with chloroform the transparent crystals dissolved, leaving the white masses intact, demonstrating the presence of two distinct substances, one soluble and the other insoluble in chloroform. It having been demonstrated that the residue obtained by evaporation of chloroform could not be weighed as hexamethylenamin, due to enclosed chloroform, the amount of this substance in the residue was determined.

The method used has been described in the Report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, and depends on the decomposition of hexamethylenamin by means of sulphuric acid to form ammonium sulphate and formaldehyd. From this solution the ammonia is liberated, distilled and determined by titration and from the ammonia found the amount of hexamethylenamin is calculated. By this method Formurol was found to contain (a) 35.42 per cent. and (b) 35.32 per cent., or an average of 35.37 per cent. hexamethylenamin. The residue insoluble in chloroform was shown to consist essentially of disodium hydrogen citrate by determining the amount of sodium (Na) contained in Formurol. The percentage of sodium calculated from the amount of sodium sulphate found was (a) 11.38 per cent. and (b) 11.20 per cent., or an average of 11.29 per cent., equivalent to 62.50 per cent. disodium hydrogen citrate.

As a check on this determination, the amount of material contained in Formurol which is insoluble in chloroform was determined. It was found to be (a) 63.23 per cent. and (b) 63.49 per cent., making an average of 63.36 per cent., and thus agreeing fairly well with the results obtained when the sodium content was assumed to be disodium hydrogen citrate. From this analysis it

appears that Formurol is not a definite compound of hexamethylenamin and sodium citrate, but instead is a mixture of these substances consisting approximately of hexamethylenamin 35.37 per cent. and sodium acid citrate (disodium hydrogen citrate) 63.36 per cent., practically a mixture of 1 part hexamethylenamin and 2 parts sodium acid citrate. These results agree with those reported by Zernik³ and show that the product now, as then, is not true to claims.

In view of the findings of the laboratory, it is recommended that Formurol be refused recognition. As the exploitation of well-known remedies under false and misleading names is detrimental to the progress of medicine, it is recommended that publication of this report be authorized.

EDITORIAL NOTE: This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past, many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.—
(From *The Journal A. M. A.*, Jan. 21, 1911.)

GARDNER'S SYRUP OF HYDRIODIC ACID

Report to the Council on Pharmacy and Chemistry

The following report on Gardner's Syrup of Hydriodic Acid was submitted to the Council by a subcommittee:

This product was first taken under consideration in February, 1906. Reference to several committees was necessary, on account of the peculiar claims for the pharmaceutical, and especially the therapeutic, superiority of this preparation. At this time, as the Council did not have the necessary facilities for investigating therapeutic claims, the product was approved by the Council.

Since this time, however, the manufacturers have laid especial stress in their advertisements on some highly improbable claims, stating, for instance, that this Syrup of Hydriodic

Acid possesses "all the advantages, with none of the objectionable symptoms caused by potassium iodid, or other forms of iodine medication." To one with even an elementary knowledge of chemistry, the absurdity of this statement should be evident. The alkaline reaction of the tissues makes it impossible that hydriodic acid should persist as such in the body. In fact, the iodine must circulate in precisely the same form, whether administered originally as potassium iodid or as hydrogen iodid. The qualitative identity of the therapeutic actions is further proof of this fact, were such needed.

Since the most important objectionable symptoms of iodine medication arise after the absorption of the drugs, and since hydrogen iodid is conceded to be readily absorbed, it is evident that these symptoms must be equally liable to occur with hydrogen iodid as with potassium iodid, provided that equivalent doses of iodine are administered. An apparent difference in clinical results would arise if one drug were habitually given in smaller doses than the other. Since, however, the iodine is present in the body in precisely the same form, whether it is administered as a hydrogen iodid or potassium iodid, it is evident that a given degree of therapeutic effect would correspond to an identical tendency to iodism, whichever drug was used. If, as appears to be the case, the use of hydriodic acid is commonly restricted to those cases in which only minimal doses of iodine are required, the relative infrequency, or even absence of symptoms with such doses would not prove that the drug itself is less apt to cause them than is the potassium salt.

These facts are in reality self-evident; but since the Council now has the proper facilities for obtaining the views and experiences of clinicians, it voted to submit the statement in question to its staff of clinical consultants, and to be guided by their advice.

OPINIONS OF THE CLINICAL STAFF

The following is an epitome of the replies of the eleven members of this staff who had used the article or who expressed an opinion to the questions sent out by the Council:

1. QUERY: "Do you think it possible that such a preparation could be devoid of the usual effects of iodine preparations?"

Eight reply that they consider this, *a priori*, impossible; three stamp the statement as highly improbable, but do not care to say that it would be impossible. One of the correspondents remarks: "While distinctly taking the position that under many conditions we must accept clinical results which we find not explainable by our theoretical knowledge, where the conditions are so simple as in this case and where we know that the iodine, whether administered as hydrogen iodid or potassium iodid, must behave in the same way, after absorption, I believe that no properly educated and correct thinking physician can or will, after due consideration, fail to reject the claims of superiority made by the proprietors of this preparation."

2. QUERY: "Would you consider it necessary to make clinical experiments to settle this question?"

Seven of the correspondents consider this superfluous; four of these have had some experience with the article. Four, who have not used this product, consider a clinical test advisable. Under Query 3 we discuss the results of such tests.

3. QUERY: "When using Gardner's Syrup of Hydriodic Acid, have you ever noticed from it any of the objectionable effects of iodine preparations?"

Six of the correspondents have not used it, or are uncertain whether or not they used the product made by Gardner. One correspondent remarks: "Never used it. Repelled by claims of superiority which exaggerate disadvantages of potassium iodide and overlook the small amount of iodine used in the preparation advertised." The five clinicians who have prescribed the preparation report as follows: 1. Objectionable iodine effects in two cases, both patients being intolerant of all iodine preparations. 2. Has only prescribed it once or twice, but thinks he has seen iodism in one case, some years ago; does not recall clearly. 3. No; but has used this make very little, and then always in very small but continued doses. 4. No, but always used it in small doses. 5. Yes, several cases in children; typical coryza, etc., with doses of three drams three times a day.

CONCLUSIONS: It appears that typical iodism occurred in several cases, after doses corresponding to 10 grains or less of potassium iodide per day, and this is a rather limited clinical material. Objectionable iodine effects are, therefore, not uncommon. Several correspondents remark that the relative infrequency of iodism is easily explainable by the fact that syrup is rarely employed in conditions which demand an active iodine medication and that it is, therefore, always taken in small doses. In fact, the main if not the only point of superiority of the syrup appears to be in its flavor.

These clinical opinions and experiences, therefore, are in complete agreement with the judgment of the committee, namely, that the therapeutic claims made by the manufacturers for this article are exaggerated and misleading.

OTHER MISSTATEMENTS

The above is by no means the only misstatement in the printed matter issued by this manufacturer. In the publication, "The Applications of Iodine," issued in 1907, there occur the following misleading statements which, since they refer to plainly chemical facts, did not require submission to the clinical staff:

That the administration of potassium iodide after meals greatly impairs its physiologic action "by its chemical union with the various food products" (Page 19). So far as the committee knows, potassium iodide does not combine with the food products in the stomach.

"Iodide of potassium, having an alkaline reaction, neutralizes the hydrochloric acid in the gastric secretions, causing indigestion, loss of appetite and depression" (Page 19). The

United States Pharmacopeia states, under Potassii Iodidum: "Its aqueous solution is neutral or has a slightly alkaline reaction on litmus paper." The slight occasional alkalinity would be physiologically insignificant, and it is absurd to claim that this alkalinity causes "indigestion, loss of appetite and depression."

"The dose of iodid of iron is so small that the amount of iodine contained therein is of little advantage" (Page 19). As a matter of fact, the pharmacopeial average dose (1 c.c.) of the Syrup of Iodid of Iron contains as much iodine (0.85 grains) as a teaspoonful of Gardner's Syrup of Hydriodic Acid (0.83 grains).

"In hydriodic Acid the iodine is in combination with hydrogen, one of the elements of the natural secretions of the body, and is, therefore, in physiologic harmony" (Page 21). No comment is needed.

It is implied elsewhere (Page 29) that potassium iodide decomposes more readily, with the liberation of iodine, than does hydrogen iodide. This is contrary to the prevailing opinion, and would require definite evidence before it could be accepted. It is also stated the large doses of potassium iodide in syphilis are necessary, because the gastric decomposition prevents complete absorption. This is certainly untrue, for potassium iodide is absorbed almost quantitatively.

These, and numerous other misstatements, constitute violations of Rule 6; and it is, therefore, recommended that Gardner's Syrup of Hydriodic Acid be removed from the list of remedies approved by the Council; it is further recommended that this report be published.

The Council postponed final action on the report pending its submission to R. W. Gardner. This having been done, and the reply of Mr. Gardner submitted to the Council, the above report was adopted and ordered published.

W. A. PUCKNER, Secretary.

(From *The Journal A. M. A.*, Nov. 14, 1908.)

GLYCOZONE

Report of the Council on Pharmacy and Chemistry, with Comments

A number of specimens of Glycozone purchased in the open market were examined by a sub-committee. The product was found to be a mixture of approximately 90 per cent. glycerin, 5 per cent. glyceric acid, a small amount of water and traces of undetermined matter. The absence of hydrogen peroxide or other peroxides was demonstrated.

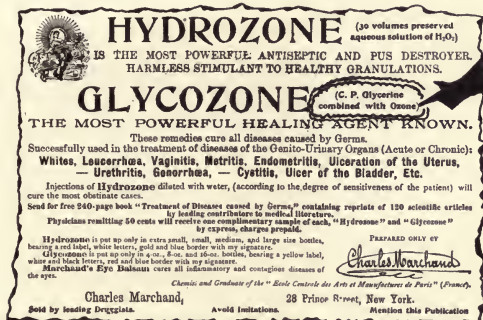
In its report the sub-committee held that: (1) The name of the product is objectionable and misleading; (2) the statements made in regard to its composition also are misleading; (3) the claims for its therapeutic value are exaggerated and untrue. Since the objectionable statements have been given

wide publicity among physicians as well as among the laity, the sub-committee recommended that attention should be called to the matter in THE JOURNAL.

The report of the sub-committee was adopted by the Council.
W. A. PUCKNER, Secretary.

COMMENT:—While the name gives the impression that ozone or some similar substance is an essential constituent of Glycozone, or else that the preparation is a compound or derivative of ozone, and while the earlier advertisements stated that Glycozone was "glycerin combined with ozone," the examination made by the Council shows that there is no basis of fact for such inferences.

In the advertisements the "chemical formula" $C_2H_5O_4 + C_2H_5O_3$ appears under the word Glycozone. From the Council's report it is apparent that $C_2H_5O_4$ stands for glyceric acid and



HYDROZONE (30 volumes preserved aqueous solution of H_2O_3)

IS THE MOST POWERFUL ANTISEPTIC AND PUS DESTROYER.
HARMLESS STIMULANT TO HEALTHY GRANULATIONS.

GLYCOZONE (C. P. Glycerine combined with Ozone)

THE MOST POWERFUL HEALING AGENT KNOWN.

These remedies cure all diseases caused by Germs.
Successfully used in the treatment of diseases of the Genito-Urinary Organs (Acute or Chronic):
Whites, Leucorrhœa, Vaginitis, Metritis, Endometritis, Ulceration of the Uterus, — Urethritis, Gonorrhœa, — Cystitis, Ulcer of the Bladder, Etc.

Injections of **Hydrozone** diluted with water, (according to the degree of sensitiveness of the patient) will cure the most obstinate cases.
Send for free 240-page book "Treatment of Diseases caused by Germs," containing reprints of 120 scientific articles by leading contributors to medical literature.
Physicians remitting 50 cents will receive one complimentary sample of each, "Hydrozone" and "Glycozone" by express, charges prepaid.

Hydrozone is put up only in extra small, small, medium, and large size bottles, bearing a red label, white letters, gold and blue border with my signature.
Glycozone is put up only in 4-oz., 8-oz. and 16-oz. bottles, bearing a yellow label, white and black letters, red and blue border with my signature.
Marchand's Eye Balsam cures all inflammatory and contagious diseases of the eyes.

Prepared only by
Charles Marchand
Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

Charles Marchand, 28 Prince Street, New York.
Sold by leading Druggists. Avoid Imitations. Mention this Publication

Much-reduced photographic reproduction of one of the older Glycozone advertisements. Attention is directed to the false claim that this nostrum is "glycerin combined with ozone."

the $C_2H_5O_3$ for glycerin, and that these, therefore, indicate the chief constituents of Glycozone. Few, doubtless, would recognize the first formula as being that of a glyceric acid, a product practically unknown in medicine, nor would many associate glycerin with the second. The evident intent is that physicians should accept the formula as a badge of respectability.

According to the label on a trade package, Glycozone is "prepared only by Charles Marchand, chemist," and is an absolute cure for dyspepsia, catarrh of the stomach, ulcer of the stomach, heart-burn," etc. The label further reads: "This remedy is positively harmless. By destroying the microbial element in the stomach it prevents the fermentation of food and stimulates digestion." An examination of medical literature fails to reveal any basis for these claims.

While glycerin possesses some antiseptic properties, it is evident that the glycerin which constitutes 90 per cent. of this remedy is not the agent that gives the glycozone such phenomenal virtues. General literature contains nothing that would indicate that glyceric acid in any quantity, with or without glycerin, possesses these miraculous properties. If by "microbian element" is meant microbic organisms, the statement is without foundation. There is nothing in this product which possesses these bactericidal powers.

The circular which accompanied a trade package, envelopes the preparation in an air of mystery. Derivation from, or close relation to, ozone and hydrogen peroxid is vaguely hinted at, without definite assertion. Thus, the chief therapeutic properties of glycozone and hydrozone are compared as follows:

"Hydrozone instantly destroys the microbian element, leaving the tissues beneath in a healthy condition."

"Glycozone acts more slowly, but not less certain as a stimulant to healthy granulations."

There is no similarity between the action of hydrozone, which is a hydrogen peroxid preparation, and glycozone, which consists of a mixture of glycerin and glyceric acid. The representation is false and misleading. The following statement, also, is an unwarranted exaggeration of the facts:

"As an internal medication in fermentation of food, catarrhal and inflammatory conditions of the stomach, and intestinal disorders, its action is prompt and effective, giving immediate relief to the patient."

The following is another illustration of the vague statements made: After asserting that glycozone is hygroscopic and that it will deteriorate by absorption of water unless securely corked, it is stated that "Its healing properties increase with age." Whatever mysterious ingredient there may be present in this mixture to justify the statement that the healing properties increase with age can only be conjectured. To humbug the patient further, the circular advises him to use only a "silver, glass or hard rubber spoon."—(*From The Journal A. M. A., June 5, 1909.*)

LABORDINE

A Report by the Council and Some Pertinent Comments Added Thereto

The following report was submitted to the Council on Pharmacy and Chemistry by the subcommittee which examined Labordine:

To the Council on Pharmacy and Chemistry:—Your subcommittee presents the following report on Labordine, sold by the Labordine Pharmacal Co., St. Louis.

Labordine is advertised to physicians as having the following composition:

Apium Graveolens (true active principle) ((Process-	
Laborde"	35%
Gaultheria Fragrantissima (true active principle)	

"Process-Laborde"	25 1/8
Acete Amide-Phenylic	15 1/8
Quinina	1 1/8
Benzoyl-Sulphyonic-Imide	23 1/4

It is stated to be a "vegetable antipyretic"; that it "reduces temperature without heart depression," and physicians are warned to "avoid acetanilid poisoning and danger from other coal-tar antipyretics."

While the "formula" and the statement just quoted are sufficient evidence of the fraudulent character of the product, yet an abstract of the reports of the chemists who analyzed it is given further to demonstrate its character.

Taking the average of the reports of analyses, Labor-dine contains:

Acetanilid	37.9
Free salicylic acid	6.9
Quinin	present
Corn starch	present
Milk sugar	34.7


Avoid Acetanilid Poisoning and Danger from Other Coal-Tar Antipyretics!

FORMULA.

Apium Graveolens (true active principle) "Process-Laborde"	25 1/8
Gaultheria Fragrantissima (true active principle) "Process-Laborde"	25 1/8
Acete Amide-Phenylic	15 1/8
Quinina	1 1/8
Benzoyl-Sulphyonic-Imide	23 1/4

**REDUCES TEMPERATURE WITHOUT HEART DEPRESSION.
RELIEVES PAIN WITHOUT BAD AFTER-EFFECTS.**

Quantity sufficient for clinical test on request.



LABORDINE
Vegetable Antipyretic

Try Labor-dine in a critical case where other antipyretics have failed to give the desired results.

Dose, 5 to 10 Grains.
Prepared in Powder and 5 grain Tablets.

Labor-dine Pharmacal Co., St. Louis, U. S. A.

This report of analysis only makes apparent that Labor-dine is not what it is claimed to be. While it is claimed to contain 23 1/4 per cent. saccharin, this substance was not present, or mere traces only. While, in a disguised way, it is stated to contain 15 1/8 per cent. acetanilid, it contained nearly 40 per cent.

It is recommended that Labor-dine be not approved and that this report be published.

The recommendation of the subcommittee was adopted by the Council, and in accordance therewith the above report is published.

W. A. PUCKNER, Secretary.

COMMENTS

A concrete illustration of some general principles previously laid down is furnished by a nostrum too unimportant to be of any value, save to "point a moral and adorn a tale."

About thirteen years ago Labor-dine was advertised under the name of Anal-gine-Labor-dine, "A purely vegetable product," "a combination of the active principles of *Camellia Thea*, *Apium Graveolens*, saccharin and carbohydrates," "Superior to Antipyrine, Phenacetine, Antifebrine, Acetanilid"—note the use of two names for the same thing—"or any of their imitations," and "unexcelled by any coal-tar product or their compounds."

In 1894 the name was changed to Labordine, in order, as its owner stated, to prevent its being mistaken for a coal-tar product of similar name.

What its composition was at this time we do not know, since there is no guarantee of the permanence nor stability of nostrum formulas except "the honor and reputation of the manufacturers," which, as investigation has shown, is not always unimpeachable. There has been nothing to prevent alteration of the formula, if the proprietors desired, with every change in the moon. But the name and the general tone of the advertising has been the same. The claim of superiority over coal-tar products has been constantly made.

As to the present conditions, a circular enclosed with a sample of Labordine, recently sent from the St. Louis office, contains the formula given above in the report of the Council. In the same circular are also found these illuminating statements: "The medical profession has long appreciated the dangers involved in the administration of various mineral remedies now so commonly employed, and the value of a safe, effective and reliable vegetable antipyretic is universally recognized. Such a remedy is Labordine. It is purely vegetable in its composition and produces none of the evil after-effects of the coal-tar derivatives. . . . Labordine . . . is a purely vegetable cardiac stimulant. . . . There is nothing mysterious about Labordine or its constituents. . . . The 'Process-Laborde' gives the true active principles of the Celery and Indian Wintergreen, something heretofore difficult to obtain. To this is added the fact that absolutely chemically pure Acet-Amide-Phenyle is used. The latter is the most valuable and, in fact, the only vegetable antipyretic known."

The above report of the Council shows the following facts:

1. *Apium Graveolens* (true active principle), "Process-Laborde" is probably powdered celery seed. One chemist says: "The powder has the characteristic odor of celery, while a microscopic examination shows the presence of a substance having the characteristic structure of seeds in general." If celery seed has any "active principle" it has never been isolated. As to its therapeutic value, nothing whatever is known. It is, we understand, highly beneficial in the case of singing canaries, but authorities in scientific therapeutics have never discovered that it possessed any remarkable medicinal qualities.

2. *Gaultheria Fragrantissima* (true active principle), "Process-Laborde," is probably ordinary everyday salicylic acid. One analysis showed salicylic acid to be present to the amount of about 7 per cent. The question of whether or not salicylic acid could in any way be considered the "true active principle" of *Gaultheria Fragrantissima*, was submitted to Prof. John Uri Lloyd of Cincinnati, the eminent authority on the chemistry of the proximate principles of plants, who replies:

The advertisement is evidently so worded that, although the name of the Indian plant *Gaultheria Fragrantissima* is employed, its true and active principle being wintergreen oil, the concoctor can mystify his patrons and at the same time use the well-known wintergreen oil, made in America, which in my opinion, so far as any chemical test might be concerned, could not be distinguished from the methyl salicylic acid (wintergreen oil) derived from the Indian plant. Concerning whether salicylic acid is a proximate constituent of *Gaultheria Fragrantissima*, in my opinion, it would be a misnomer to make such an announcement. Salicylic acid, *per se*, does not exist, in my opinion, in the plants mentioned, being made by chemistry.

3. The third and most important ingredient in this "purely vegetable antipyretic" is brazenly announced as "Acete-Amide-Phenyle," but it is only necessary to say that this imposing designation is an attempt to "Frenchify" a scientific name for acetanilid.

Analysis shows that this coal-tar product is present to the amount of 37.9 per cent., or 1.89 grs. in a 5-grain tablet.¹ In other words, this imposing Labordine, made by a mysterious and elsewhere unheard of "Process-Laborde," is simply one more of the many acetanilid powders that have been foisted on our profession and that have filled our journals for years past. The only thing in it that is of practical therapeutic value is 2 grains of acetanilid to a 5-grain tablet. The statement that Labordine is a purely vegetable preparation is probably intended by the proprietors as a good joke on the medical profession. Acetanilid is not usually regarded as a vegetable product, at least it is not ordinarily found in market gardens. The only vegetable source from which acetanilid can be obtained is the beautiful flowering coal-tar bush, from which so many other nostrum vendors obtain their "perfectly harmless, purely vegetable antipyretics," all composed of acetanilid and something to hide it. If the statements made by one of the company's employees and quoted below are true, Labordine is not "manufactured and made chemically pure in the laboratories of the Labordine Pharmacal Company," for this company has no laboratory, and its product is manufactured for it.

4. Our readers will be interested to know that the important ingredient entered under the imposing name of Benzoyl-Sulphyonic-Imide is simply a highly scientific name for saccharin. Even on this point, however, the formula is misleading, since it claims 23 $\frac{1}{4}$ per cent. of this substance, whereas the analysis shows that the presence of saccharin could not be proved. If it is present at all it is in quantities much less than stated, and so small as to be difficult of recognition.

1. Since this article was prepared we find that the national Food and Drugs Act has forced the proprietors of Labordine to put on the label the amount of acetanilid it contains, viz., 40 per cent., or 2 grains in a 5 grain tablet.

Instead it appears that the product contains common starch and about 35 per cent. of milk sugar.

THE COMPANY ITSELF

One of the humiliating phases of the proprietary medicine business is that, in many instances, these preparations are foisted on our profession by men who know nothing of medicine, pharmacy or chemistry, yet who not only presume to concoct our medicines for us, but also assume to instruct us how to use them.

Gould's Commercial Register for 1907 gives the officers of the Labordine Pharmacal Company as H. M. Coudrey, president; M. Crawley, vice-president, and D. E. Gamble, Jr., secretary and treasurer. The place of business is given as 420 Market street, St. Louis. We are informed that Harry M. Coudrey is an insurance agent and the present member of Congress from the Twelfth Missouri District; that Mark Crawley is a clerk in the insurance office of H. M. Coudrey; and that Mr. Gamble is cashier in the same office. A recent visit of a representative of *THE JOURNAL* to 420 Market street, St. Louis, showed that the office of the Labordine Pharmacal Company is in Room 12 on the third floor of an old dilapidated building. There was no sign on the door of the office, but on the wall next to an old elevator was a very small sign which read "Labordine Chemical Company, Room 12." The office at the time of the visit was apparently in charge of a young woman about 20 years old. Careful scrutiny of the furniture and fixtures showed that the room contained an old oak roll-top desk in one corner and a kitchen table, on which were piled about half a dozen packages of Labordine. The floor of the room was bare and very dirty. In an adjoining room, the door of which was open, was piled a lot of broken furniture. No laboratories nor chemical apparatus were visible. The young woman in charge stated that Labordine was made by the Mallinekrodt Chemical Works, at No. 3600 North Second street, St. Louis.

This is a fair sample of nostrums and of the methods of exploiting them. The bitterly humiliating fact about the whole business is that a preparation, advertised under such palpably misleading claims, could actually be advertised in medical journals, even in journals of a supposedly high scientific standard, and could be bought and prescribed for years by supposedly intelligent and conscientious physicians. It is not supposed that every physician should be enough of a chemist to detect the ridiculous discrepancies between the published formula and the therapeutic claims made for such a mixture. But that members of a supposedly learned profession should fail to have enough interest in the preparations they prescribe for their confiding patients to find out that acetanilid is being masked under an obsolete and little used name, that under

an imposing polysyllabic designation is hidden saccharin, that the so-called "active principles Process-Laborde" (whatever that may be), is equivalent only to one-third grain of salicylic acid in a 5-grain tablet, and that the advertising matter sent out for years by this company contained absolute falsehoods regarding the composition and therapeutic benefits of its preparation, is certainly just cause for shame and humiliation. If a physician, knowing the composition of Labordine, wishes to prescribe it and prescribes it intelligently, he has a perfect right to do so. If he wishes his patient to have 2 grains of acetanilid, 1/20 of a grain of quinin, and 1/3 of a grain of salicylic acid, and considers a mixture of ground celery seed, starch and milk sugar as a proper vehicle for this medication, no one will question his right to administer it. No physician, however, has any right, either moral or professional, to prescribe a preparation, concerning the ingredients of which he knows absolutely nothing.

Is it possible that such carelessness may be one of the causes of waning public confidence in our profession? We leave it to our readers to determine whether such a moral can be drawn from this typical nostrum story.—(*From The Journal A. M. A., March 30, 1907.*)

LACTOPEPTINE

Report of the Council on Pharmacy and Chemistry, with Comments Thereon

The following report was submitted to the Council by a sub-committee:

We have devoted considerable time to the investigation of Lactopeptine (powder) and report as follows:

The label on the package contains this statement: "Lactopeptine contains the five active agents of digestion—pepsin, diastase (veg. ptyalin), pancreatin, lactic acid and hydrochloric acid—combined in the proper portion to insure the best results."

Examinations demonstrated that more than 90 per cent. of Lactopeptine is milk sugar.

The amount of pepsin contained in Lactopeptine is somewhat less than 10 per cent. of official pepsin.

Careful examination failed to show the presence of either diastase or pancreatin.

Examination demonstrated a minute trace of chlorid only, therefore the preparation does not contain any appreciable amount of hydrochloric acid. The amount of lactic acid, calculated from the quantity of potassium hydroxid required for neutralization, was found to be 3 per cent.

From the above it is evident that Lactopeptine (powder) is at least no more efficient as a digestive agent than the ordinary Saccharated Pepsin, official in the 1880 U. S. Pharmacopeia, but replaced in the present Pharmacopeia by the more active and dependable Pepsin.

These findings were submitted to the manufacturers of Lactopeptine, the New York Pharmaceutical Association, who, in their reply, stated, "Regarding the assertion that Lactopeptine does not

contain pancreatin and diastase, we herewith confirm and reassert our statement that Lactopeptine is and has always been manufactured in accordance with the published formula and that the ferments referred to exist in the preparation as stated in the formula."

In view of these reasserted claims regarding the composition of Lactopeptine, another specimen was purchased in the open market. Its examination showed that it was of even poorer quality than the first specimen examined. The tests not only failed to show the presence of diastase or pancreatin, but also failed to show the presence of any appreciable amount of pepsin.

From these experiments your subcommittee must conclude that Lactopeptine contains but small amounts of pepsin, that it contains no hydrochloric acid or mere traces only, and that it contains neither diastase nor pancreatin. Hence, the statements made by the manufacturers in regard to the composition of Lactopeptine are incorrect. Since the composition of Lactopeptine is not given by the manufacturers, but, instead, corresponds to a weak saccharated pepsin, it is evident that the claims made as to its therapeutic value are unwarranted, exaggerated and misleading. It is, therefore, recommended that Lactopeptine be not approved. In view of the wide publicity given to the claimed composition and therapeutic value of the article, it is further recommended that this report be published.

The recommendations of the subcommittee were adopted by the Council, and in accordance therewith the report is published.

W. A. PUCKNER, Secretary.

Reduced to a few words, the above report shows that—whatever the manufacturer may have put into it—Lactopeptine as it exists on the market was found by the subcommittee to be only equal to a weak saccharated pepsin, which has but one-tenth the digestive power of the official pepsin and that Lactopeptine at times is inert.

That the subcommittee which examined Lactopeptine could find neither diastase nor pancreatin was to be expected, since it has been demonstrated repeatedly that those ferments are destroyed by pepsin in the presence of acid. The examination shows that in the absence of solvents the presence of lactic acid still enables the destruction of pancreatin and diastase. That the manufacturers should have attempted to manufacture such an impossible product, and that the medical profession should have accepted it, is not creditable to either party concerned.

That the subcommittee should fail to find the hydrochloric acid claimed to be contained in the product was a foregone conclusion. If it is remembered that ordinary hydrochloric acid is a solution of hydrogen chlorid in water and that hydrogen chlorid itself is a gas, the absurdity of the claim that it is contained in a dry powder is apparent.

It is astonishing that physicians should so long have used a product about whose therapeutic value extravagant claims have been made, when the very statements in regard to its composition should have condemned it.—(*From The Journal A. M. A., March 16, 1907.*)

A Further Report on the Digestive Power of Lactopeptine.

Dr. Charles H. Miller, assistant professor of pharmacology, Northwestern University Medical School, has voluntarily conducted some experiments for the purpose of learning whether or not Lactopeptine Powder is effective either as an amylolytic or a proteolytic ferment. From his experiments he concluded:

"Lactopeptine is apparently equivalent in proteolytic power to the Pepsinum Saccharatum of the U. S. P., 1890, which was a 10 per cent. preparation, and like it, Lactopeptine is only active in acid media. It is devoid of active enzymes other than the pepsin, and while the powder is feebly acid in reaction, no activity could be shown when water was the medium employed."—(*Abstracted from The Journal A. M. A., March 23, 1907.*)

MEAT AND BEEF JUICES *

Report of the Council on Pharmacy and Chemistry

The following was submitted to the Council by a subcommittee:

To the Council: While meat extracts contain only traces of coagulable proteids and have little food value, meat juices are prepared by a process which ensures the presence in the finished product of considerable quantities of coagulable proteids and they therefore have considerable value as foods. Many preparations which are sold as beef juices or meat juices have no right to these designations. Since the public and physicians are likely to be misled by the names given to these products and by the false claims which are made for them as foods and depend on them in the nourishment of the sick, it is important that their composition and their value as foods should be known.

In the following report is presented the results of an examination of some of the commercial products found on the American market. The report shows that *Wyeth's Beef Juice* (John Wyeth & Bro., Philadelphia), *Bovinine* (The Bovinine Co., New York), *Carnine* (Carnine Co., Fougere & Co., New York), and *Valentine's Meat Juice* (M. J. Valentine, Richmond, Va.) are sold under names which are incorrect, that their composition is not correctly stated by the manufacturers and that false and misleading statements are made in regard to their value as food.

It is recommended that the products named be refused recognition for conflict with rules 1, 6 and 8. Since these preparations are typical of many others on the market, and as their use is a menace to the public health it is recommended that the report be published.

This report was adopted by the Council.

W. A. PUCKNER, Secretary.

Beef or meat juices are clearly to be distinguished from beef or meat extracts. The word "juice" applies solely to the fluid

* See index for related articles.

portion remaining in fresh meat after proper cooling and storing and may be obtained by pressure or diffusion with or without a low degree of heat. Under heavy pressure freshly chopped meat will yield from 25 per cent. to 40 per cent. of a thick reddish juice and if the meat is previously frozen or heated to 60° C., as much as 50 per cent. may be obtained. This gives some idea as to the probable cost of preparing beef juice at home. The chief characteristics of meat juice are the presence of a considerable proportion of coagulable protein and a low content of meat bases. That above represents the nature of these commodities as usually understood by the medical profession, is clearly shown by this quotation:¹

"One or two teaspoonfuls of this (meat juice) are added to a teacupful of cold or warm water, which, however, must not be boiling, or otherwise the albumin would be coagulated, but it may, however, be sufficiently warm to drink comfortably."

Beef juice is considered by some physicians of much dietetic service and believed to represent liquid food in concentrated form. W. O. Atwater,² relative to this product, says:

"Beef juice obtained from the best steak which has been merely warmed through over the coals and then entirely deprived of soluble substance by a screw press, is undoubtedly the most concentrated of the liquid foods."

The latter authority gives a number of analyses of beef juices prepared under known conditions.

DEFINITION OF MEAT JUICE

Meat juice is defined by the standards committee of the Association of Official Agricultural Chemists as the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble protein. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous bodies contain not less than 35 per cent. of coagulable proteins and not more than 40 per cent. of meat bases.

Meat juices of commerce are supposed to be made by subjecting properly prepared meat to heavy pressure with subsequent concentration of the juice *in vacuo* at a low temperature. The latter is necessary because if the temperature is raised to any material extent the valuable coagulable, soluble proteins referred to above, are precipitated and lost. In order to establish a basis of comparison relative to the com-

1. Brunton, Sir Lauder: "Disorders of Assimilation, Digestion, etc.," p. 183.

2. Bull. No. 21, U. S. Dept. Agricult., Office of Experiment Stations.

position of natural raw beef juice a number of samples were prepared under known conditions and submitted to analysis. The results contained in the subjoined table clearly show that meat juices made under known conditions vary according to the mode of preparation, but it is evident that practically one-half of the nitrogen is present as coagulable protein.

FOOD VALUES

In order to arrive at the food value of any commodity it is necessary to consider its chemical composition, available potential energy, absorbability, etc. On referring to the analytical table it will be found that the amount of inorganic material in meat juices Nos. 7 and 10 is unduly high. It appears that sodium chlorid, *per se*, has been added to both Bovinine and Wyeth's Beef Juice probably as a preservative in the latter and for condimental purposes in the former. The relative and absolute proportions of phosphatic material in both products is excessive. The other constituents present in the ash are those usually found in meat products.

The amount of sugar and glycerin in Carnine is interesting. These agents may be added for preserving purposes but the resulting product, on account of its syrupy appearance, leads to the belief and is so represented, that it is a concentrated food. Glycerin is also present in Bovinine and Valentine's meat juice. Bovinine in addition contains about 8 per cent. alcohol.

The total nitrogen content of the trade products excepting Carnine, is greater than the amount of nitrogen present in meat juices proper, but the relative amount of nitrogen present as coagulable protein—the valuable part of meat juice—is much greater in the latter. In fact, the amount of coagulable protein present in Valentine's Meat Juice may be considered *nil*, which indicates that an unduly high temperature is used in its preparation. In this connection it should also be noted that even a moderate elevation of temperature influences the chemical composition of meat juices. For example, the coagulable matter present in Nos. 3, 4 and 5, is approximately one-half that present in Nos. 1 and 2, which appears to indicate that the best product can be made without the use of any heat whatever. Several of the trade products, namely Nos. 7, 8 and 9, contain about as much coagulable material as meat juice made by heating beef to 60 C. According to the formula appearing in a circular of the Bovinine Company, a part of the coagulable matter is present in the form of egg albumin, but the company claims egg albumin is not used at present. In the case of Carnine, the coagulable matter appears to be introduced by the use of blood itself. The exact nature of the coagulable protein matter in Wyeth's Beef Juice has not been ascertained. It is well-known to manufacturers and physiologic chemists that it is practically impossible to manufacture a genuine meat juice possessing a reasonable amount of coagulable proteins, which is stable without a preservative.

Meat juices, in addition to the coagulable protein material, contain other protein bodies such as albumoses and peptones. These bodies are largely formed from the original protein bodies present in the meat juice during the process of manufacture. They are highly nutritious and largely and readily absorbed from the alimentary canal but the amount of these bodies present in the trade products is relatively small excepting in Bovinine, which is not a meat juice, particularly when the high prices are considered.

A considerable proportion of the nitrogenous matter contained in Valentine's and Wyeth's products is present in the form of amino bodies frequently included in the general term, "extractives." These bodies may be oxidized in the body and thus supply heat in a manner similar to alcohol, but it should be remembered that there still appears to be a wide difference of opinion among various observers on this point. Some appear to be of the opinion that the amino bodies are devoid of food value in that these bodies appear in the urine practically unchanged. It would, therefore, appear that the value of the amino bodies is largely of a stimulant character.

The food value of meat juices, therefore, resides largely, if not solely, in the coagulable and other protein material present. Comparing the calorific value or potential energy available in meat juices proper on this basis with that present in the commercial products, excluding Bovinine, it will be seen that on the average the genuine meat juices—that is, those made by pressure, direct from the meat itself as wanted—are much superior to the commercial products, notwithstanding the marked concentration in some cases. The calories given in the accompanying table do not include sugar, alcohol or any other added material of this character.

WYETH'S BEEF JUICE

"Wyeth's Beef Juice" is not a true beef juice, but resembles rather a diluted meat extract. It contains much added inorganic matter, is low in coagulable proteins, and considering the degree of concentration, relatively deficient in nutritive value. Some of the claims contained in the circular accompanying this preparation, in view of its composition set forth above, may be of interest:

"Wyeth's Beef Juice . . . , containing two fluid ounces and representing three pounds of prime lean beef,"
 " . . . beef extracts made by the Liebig process are utterly devoid of the valuable and nutritious albuminous constituents of meat,"

[Wyeth's Beef Juice] "should not be compared with ordinary beef extract,"

BOVININE

Bovinine, advertised as a "condensed beef juice prepared by a cold process" is a mixture of alcohol, glycerin, added sodium chlorid, and apparently some form of defibrinated blood. According to the manufacturer's literature egg albumin was used

COMPOSITION OF MEAT JUICES

Name of Preparation.	Volatile mat- ter 100 C.		Inorganic matter.		Sodium chlorid.		Phosphoric pentoxid (P ₂ O ₅).		Ether ex- tract, glycer- ol and unde- termined matter.		Total nitro- gen.		Coagulable proteins (N x 6.25).		Other pro- teins (N x 6.25).		Amino bodies (N x 8.12).		Calories per 500 gm. ob- tained from protein fac- tor 4.8.		Calories per 500 gm. ob- tained from protein fac- tor 0.56	
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	
Made in Laboratory	Chuck beef, cold pressed..	86.85	1.86	1.53	.20	.31	1.32	.75	2.08	1.74	6.13	2.94	.90	217.68	2.52	2.88	2.85	1.57	3.75	.70		
	Round beef, cold pressed..	85.76	1.53	1.29	.12	.37	.81	2.98	1.09	1.16	4.25	1.00	.25	24.00	154.56	16.8	339.12	78				
	Chuck beef pressed at 60 C.	91.90	1.29	1.36	.19	.29	2.09	2.25	3.15 ^a	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78				
	Chuck beef pressed at 60 C.	89.56	1.27	1.36	.16	.37	2.09	2.25	3.15 ^a	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78				
Made in Laboratory	Round beef pressed at 60 C.	90.65	1.36	1.36	.16	.36	2.09	2.25	3.15 ^a	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78				
	Chuck beef heated 6 hours before pressing 60-100 C.	98.11	.39	.05	.12	.25	.24	3.15 ^a	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78					
	Beef Juice, John Wyeth & Bro., Philadelphia, Pa...	58.84	16.21	1.55	1.05	3.27	.09	3.64 ^e	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78					
	Bovimine, The Bovinine Co. 75 W. Houston St., New York City	80.40 ^e	1.55	1.05	.09	3.64 ^e	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78							
Trade Products	Carnine Co., Lefranco, Paris, France; Imported by Fougere & Co., Agts., New York City	80.40 ^e	1.55	1.05	.09	3.64 ^e	2.36	3.38	10.75	.28	6.00	154.56	16.8	339.12	78							
	Meat Juice, M. J. Valen- tine, Richmond, Va.....	24.80 ^a	.86	10.26	1.77	3.41	20.41 ^f	3.06 ^b	.96	2.25	2.56	.59	115.44	1.65	135.12	16.97						
<i>a.</i> Including 20 per cent. as NH ₃ ; <i>b.</i> including .22 per cent. NH ₃ ; <i>c.</i> 8.17 per cent. alcohol found; <i>d.</i> vacuum 70 C.; <i>e.</i> 3.1 per cent. glycerol found; <i>f.</i> 47.50 per cent. cane sugar—14.2 per cent. glycerol found; <i>g.</i> 8 per cent. of glycerol found.																						

The several samples of beef juice were prepared from practically fat free, finely comminuted, chuck and round beef, first by pressure at the ordinary temperature; second, by heating the prepared meat for several hours at 60 C., then submitting to pressure. Sample No. 6 was made from chuck beef, prepared as above, by heating six hours at from 60 to 100 C., and expressing after cooling. It is not a beef juice proper but was prepared, analyzed and added to the list for information. Its composition resembles several commercial articles closely. A number of products represented and sold as meat juice in the United States were analyzed and the results recorded in the accompanying table.

formerly but this ingredient is said to be no longer employed. It is not a meat juice in any sense of the word. Numerous misrepresentations will be found on the label and in the literature of Bovinine, of which the following are typical:

"The blood of selected steers prepared by a cold process, furnishing a perfect food, free from insoluble elements."

"The rapidity with which Bovinine is absorbed and assimilated in the stomach . . ."

"It supplies complete nutrition to the patient."

"Bovinine contains all the elements of the animal, vegetable and mineral kingdoms for the production of new blood with great rapidity. Its principal constituents have been selected with a view to furnish the largest amount of nutriment in the most condensed form and all the resources of modern chemical analysis have been brought to bear on this important problem."

A series of experiments carried out with dogs under anesthesia, by injecting Bovinine into the stomach, the pyloric end of which was ligated, shows that Bovinine is not readily absorbed and assimilated by the stomach as claimed. The amount of protein material found in the stomach at the end of one-half hour to one hour and a quarter was practically equal to the amount introduced by the Bovinine.

It is also represented that Bovinine is of great service in case of an irritable stomach. This is not borne out by experiment. Bovinine fed to dogs by the mouth, either alone or mixed with food, induced vomiting, which was less marked when Bovinine was given with the regular diet. An examination of the urine of these animals showed a marked diminution of the amount of indican, while the ethereal sulphates were enormously increased, both absolutely and relatively, when Bovinine was given. Experiments on rabbits have shown that Bovinine injected into the peritoneal cavity was invariably followed by large quantities of albumin in the urine, which persisted for from 24 to 48 hours. Thirty to 50 c.c. per kilo given by mouth daily caused emaciation and weakness; in some cases, irritation of the gastrointestinal canal, with death of the animal in from 7 to 12 days.

CARNINE

Carnine is a French preparation imported into the United States by Fougere & Co., of New York City. In physical appearance it looks like highly concentrated food, but analysis shows that it consists of a small proportion of defibrinated blood dissolved in a mixture of syrup and glycerol, the whole agreeably flavored. It is represented as a "juice of rare meat, prepared by cold process. Each tablespoonful represents 100 gm. of raw meat, or $3\frac{1}{2}$ ounces." It is clear that Carnine is not a meat juice in any sense of the word.

VALENTINE'S MEAT JUICE

Valentine's Meat Juice resembles in physical appearance taste, odor and by chemical analysis a diluted meat extract.

The nutritive value of meat extracts is virtually *nil*, as is well-known by the medical profession. Notwithstanding the composition of Valentine's Meat Juice and the fact that beef extract represents little nutritive value, the manufacturer makes the following misleading representations:

"The two-ounce oval bottle, adopted for the Meat Juice contains the concentrated juice of four pounds of the best beef, exclusive of fat; or the condensed essence of one and a half pints of pure liquid juice which is obtained from the flesh of beef."

"The use of *hot water* with the Meat Juice *changes its character and impairs its value.*" [*Italics in original.—Ed.*]

The company must certainly be aware of the fact that its product contains little, if any, coagulable proteids.

CONCLUSIONS

In conclusion; neither Bovinine nor Carnine is a meat juice, the former is anything but palatable and the latter soon cloy. "Valentine's Meat Juice" and "Wyeth's Beef Juice" are virtually diluted meat extracts which are known to possess little food value. A physician depending on any of the foregoing products to supply material nourishment, in case of serious illness, is deceiving himself, starving his patients, and may be lessening their chances for recovery. If a patient recovers while using these commodities, it is certainly not due to the food value contained in them.—(*From The Journal A. M. A., Nov. 20, 1909.*)

MEDICINAL FOODS

A report, of which the following is an abstract, was submitted to the Council on Pharmacy and Chemistry by the sub-committee which examined the medicinal foods:

In order to determine the food value of any food product it is necessary to consider the following points: Chemical composition; available potential energy; absorbability and cost. No attempt is made in this article to discuss each of these features separately, but they are utilized as required.

The ingredients on which the food value of any article of food depends are the proteid substances, carbohydrates, fats, certain inorganic bodies and—under certain conditions—alcohol. The amount of each of these present in a preparation must be established by chemical analysis. From the results thus obtained it is possible to calculate the potential energy represented by a given food product. In this report the potential or food value is expressed in the large or kilocalorie, that is, the amount of heat required to raise the temperature of one kilogram of water one degree centigrade.

The factors employed in this report for expressing in calories the actual amount of energy utilized by

the system are 4.8 for proteid substances, 4.1 for carbohydrates, and 9.2 for fats.

The accompanying table embodies the results obtained by submitting all the well-known so-called "predigested foods" to chemical examination. The table as published in *THE JOURNAL* included columns on: Price of bottle, number of cubic centimeters in a bottle, cost per 500 cubic centimeters, reaction, specific gravity, percentage of non-volatile residue, ash, percentage of nitrogen, calories as proteids in 500 grams, carbohydrates before inversion, alcohol by volume, average recommended adult dose per diem in cubic centimeters, cost per diem to supply 1,430 calories. These columns were eliminated from this abstract, as they were unessential, so far as the practical value of the article is concerned. In most cases two samples of the same brand were purchased at an interval of about six months. All the analyses were made before Jan. 1, 1907. Some of the preparations contain much glycerin which does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism.

The percentage of nitrogen accredited to each of these products represents the total amount of nitrogen, irrespective of the nature of the nitrogenous substances, although some of this nitrogen has no nutritive value.

By multiplying the percentage of nitrogen found by the factor 6.25 we obtain the percentage of nitrogenous matter (proteids) contained in the various preparations. By multiplying the number of grams of nitrogenous matter present in 500 grams of material by the factor 4.8 it is found that the potential energy available by the nitrogenous matter varies from 10.3 calories to 153.1 calories. Five hundred grams of the material is made the basis of calculation, because it approximates a pint, the amount usually believed to be present in the various trade packages, and because it affords a ready basis of calculation.

The carbohydrates are represented by cane sugar, maltose, dextrin and invert sugar. Lactose is probably also present in some, but it is impossible to establish this. By multiplying the number of grams of carbohydrates present in 500 grams of the foods by the factor 4.1 we obtain the potential energy represented by the carbohydrate, which varies from 11.3 to 319.2 calories. The total calorific value of both proteids and carbohydrates ranges from 54.7 to 397.5 calories. The total food value of an equal quantity of milk, including fat, approximates 360 calories.

The value of alcohol as a food product pure and simple in disease is, however, an open question. There is no doubt, whatever, but that it acts to a certain degree as a food even here, not as a tissue builder, but

TABULATED RESULTS OF EXAMINATIONS OF MEDICINAL FOODS

Name of Preparation and
Manufacturer.

	Glycerine and unde- termined matter.	Per cent nitrogen- ous matter (6.25).	Calories as proteids in 500 grams.	Carbohydrates after inversion.	Calories as carbohy- drates in 500 grams.	Calories as proteids and carbohydrates in 500 grams.	Alcohol, by weight.	Calories as alcohol in 500 grams.	Calories as proteids and carbohydrates per diem dose.	*Total calories in per diem dose.	No. Cc. required per diem to supply 1430 calories.
Carpanutrine—John Wyeth & Brother.....	28.45	4.28	102.7	5.34	109.5	212.2	12.5	437.5	25.5	78.0	1100.7
Carpanutrine—John Wyeth & Brother.....	21.29	6.24	149.8	5.78	118.5	268.3	14.0	490.0	32.2	91.0	942.9
Liquid Peptones—Eli Lilly & Company.....	3.63	4.50	108.0	6.05	124.0	232.0	18.0	630.0	69.6	258.6	829.4
Liquid Peptones, with Creosote—Eli Lilly & Company.....	4.34	3.84	92.2	13.47	276.1	368.3	18.0	630.0	110.5	299.5	716.2
Nutrient Wine of Beef Peptone—Armour & Company.....	14.97	0.64	15.4	15.43	316.3	331.7	17.5	612.5	66.3	188.8	757.4
Nutrient Wine of Beef Peptone—Armour & Company.....	13.70	0.43	10.3	15.57	319.2	329.5	17.0	595.0	65.9	184.9	773.3
Nutritive Liquid Peptone—Parke, Davis & Company.....	1.02	1.86	44.6	12.89	264.2	308.8	18.8	658.0	74.2	232.1	739.5
Nutritive Liquid Peptone—Parke, Davis & Company.....	1.95	1.16	27.8	13.19	270.4	298.2	17.7	619.5	71.5	220.2	779.2
Peptonic Elixir—Wm. Merrell Chemical Company.....	3.21	2.54	61.0	11.46	234.9	295.9	16.5	577.5	53.3	157.2	818.6
Tonic Beef S. & D.—Sharp & Dohme.....	12.91	3.40	81.6	2.36	48.4	130.0	12.0	420.0	13.0	55.0	1300.0
Tonic Beef S. & D.—Sharp & Dohme.....	12.63	3.28	78.7	2.22	45.5	124.2	13.0	455.0	12.4	57.9	1234.4
Liquid Peptone—Stevenson & Jester Company.....	.44	1.81	43.4	0.55	11.3	54.7	12.0	420.0	9.8	85.4	1506.8
Cow's Milk (3.8 per cent. fat).....	.....	3.50	84.0	4.80	98.4	182.4	.....	.....	7.3	1429.6	2000.0

* Total calories *per diem* dose includes the calories of alcohol in the liquid medicinal foods and the calories of the fat in milk.

as a saver of fat and carbohydrate material, and in order to give the preparations in question full value as food products, the calories, represented by the alcohol, are credited to each preparation, as are the proteids and carbohydrates. The factor usually recognized for expressing the calorific value of alcohol is 7. By multiplying the number of grams of alcohol present in 500 grams of material by 7, the number of calories varies from 420 to 658.

On looking over the literature and printed matter distributed by some manufacturers, the physician is frequently left under the impression that these preparations contain all the essential constituents necessary for maintaining normal nutrition of the body, as is clearly shown by the following quotation: "Contains sufficient nutritive material to maintain normal nutrition of the body, a valuable food in typhoid fever, pneumonia, tuberculosis, . . . and all the conditions of the system associated with enfeebled digestion and malnutrition."

In order to show the insidiousness of such representations it is only necessary to give the actual food value of the average daily dose (the average amount to be taken for twenty-four hours) recommended by the various manufacturers for their products. The average adult daily dose recommended varies from 50 to 150 c.c. The total available calories per daily dose based on the proteid and carbohydrate bodies varies from 9.8 to 110.5. Adding to these figures the amount of energy represented by the alcohol, in each case, the total available calories varies from 55.0 to 299.5. The number of calories per diem in sickness should not fall much below 1,500 during twenty-four hours.

In order to get a fair conception of the actual food value of these various preparations, it is desirable to make some comparison which can be readily comprehended by every physician. The amount of good milk necessary each twenty-four hours to sustain the vitality of a patient during a serious illness is not less than 64 ounces, or approximately 2,000 c.c. The food value in calories represented by this amount of good milk may be placed at 1,430. This includes not only the proteid and carbohydrate matter, but the fat as well. By comparing this available potential energy with the total energy available in the predigested foods under consideration, it can be readily seen that if a physician depends on the representations made by some of the manufacturers, and feeds his patient accordingly, he is resorting to a starvation diet. The largest number of available calories, including alcohol, present in any of the recommended daily doses, is less than one-fifth of the number of calories represented by 2,000 c.c. of milk; and the calories represented by the daily dose of the preparation poorest in food products is only one-twenty-fifth of the amount present in 2,000 c.c. of milk. These figures tell their own story.

Making 2,000 c.c. of milk the basis of calculation, and estimating the amount of the various preparations required to yield this number of calories, it is found that the quantity to be administered daily to supply 1,430 calories, including alcohol, varies from 716.2 to 1,506.2 c.c. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. The cost necessary to supply this energy varies from \$1.48 down to \$3.39. Compare these prices with the cost of two quarts of milk. Is further comment necessary?

It is urged in justification of the use of preparations of this class that they contain constituents not found in our ordinary foods and in a more perfectly assimilable condition. As pointed out above, these so-called predigested foods contain no fats; the carbohydrates in them are the ordinary sugars present in our common foods, while the proteins belong to the peptone or albumose class. It is for these latter that the greatest claims are made, but even here no value can be pointed out not found in whey, peptonized full milk or peptonized skimmed milk.

There is likewise another point of considerable importance to consider in this connection. The terms *peptone* and *albumose* include bodies of very uncertain composition, and their suitability as food substances depends largely on how they are prepared. Animal experiments have shown that nitrogen equilibrium may be maintained, for a time at least, by use of enzymic hydrolytic products of the proteins, even where the hydrolysis has been carried far beyond the so-called peptone stage, but it appears to be likewise true that the mixtures secured by acid or high temperature steam hydrolysis have no such value. Some of these, indeed, may exhibit a toxic behavior. This is true in particular of some of the commercial varieties of peptone, and until more is known of the source of the bodies of protein character employed in the make-up of these "predigested" mixtures it is unwise to assume anything concerning the food value of the nitrogen compounds found in them by analysis or even to dignify them by the name of foods.—
(Abstracted from *The Journal A. M. A.*, May 11, 1907.)

MIGRAININ

Report of the Council on Pharmacy and Chemistry

The Council, having voted to rescind the acceptance of Migrainin and to omit it from New and Nonofficial Remedies (Appendix); directed publication of the report given below.

W. A. PUCKNER, Secretary.

SUPPLEMENTAL REPORT ON MIGRAININ

To the Council:—Koechl & Co., American agents for Migrainin (Meister Lucius & Bruning) asserted that this prepara-

tion was a mixture of antipyrin 85 parts, caffen 9 parts and citric acid 6 parts. The experiments of F. Zernik (*Apoth.-Ztg.*, 1906, p. 686), however, showed that Migrainin consisted of antipyrin 90.88 parts, caffen 8.4 parts and citric acid 0.45 parts. When the attention of Koechl & Co. was called to this they informed the Council, on June 20, 1907, that the formula they gave was given them direct by the manufacturers abroad and that they, Koechl & Co., did not question its accuracy. They, however, offered to "write abroad and have the manufacturers confirm the formula as given." On July 23, 1907, Koechl & Co. wrote the secretary of the Council that the manufacturers had informed them that Migrainin contains 90 per cent. antipyrin and 9.1 per cent. caffen citrate. This being an acknowledgment that the former statement submitted was incorrect, the Council voted that the approval of Migrainin should be reconsidered. Examination of the product, therefore, was taken up in the Association's laboratory and an original specimen, purchased in Chicago, was found to contain moisture 0.7 per cent., antipyrin 90.93 per cent., and instead of caffen citrate 9.1 per cent., citric acid 0.51 per cent., caffen 8.53 per cent. This analysis agreed essentially with the composition of Migrainin as found by Zernik.

While the discrepancies between the statement of the firm and the facts are perhaps not great, nevertheless they show that even the formula last given is incorrect, and that the statements of Koechl & Co., while no doubt made in good faith, were in this instance unreliable.

In recent advertising matter issued by Koechl & Co., "phenozon-caffen citrate" is given as a synonym for Migrainin, one circular stating that "Migrainin is phenozon-caffen citrate," etc. In the same circular the following also appears: "In the treatment of migraine with phenacetin or antipyrin, the attack is delayed, while with Migrainin it is usually permanently stayed." This will, no doubt, lead physicians to infer that Migrainin is not a mixture of antipyrin and caffen citrate, but that it is some new compound. While the firm disclaims any intention to mislead, it does not offer to withdraw or modify this circular. It is recommended, therefore, that the approval of Migrainin be rescinded and that it be omitted from New and Nonofficial Remedies.—(*From The Journal A. M. A., June 5, 1909.*)

OXYCHLORINE

Report of the Council on Pharmacy and Chemistry

The following report on Oxychlorine has been submitted to the Council by the subcommittee to which it was assigned:

To the Council on Pharmacy and Chemistry:—Your subcommittee submits the following report: The Oxychlorine Chemical Company, 1326 Wabash Avenue, Chicago, states in its advertising literature that:

"Chemically, Oxychlorine is the tetraborate of sodium and potassium combined with oxychlorid of boron, thus: $6 (\text{NaKB}_2\text{O}_6) \text{BOCl}_3$."

Analysis of Oxychlorine showed:

Potassium	12.26	per cent.
Sodium	8.20	per cent.
Chloric acid— ClO_3	25.32	per cent.
Nitric acid— NO_3	21.70	per cent.
Boric acid-anhydrid— B_2O_3	18.63	per cent.
Water, calculated	13.29	per cent.

Thus, Oxychlorine is not a definite chemical substance of the composition claimed, but instead is a mixture of alkali chlorate and nitrate with boric acid. Assuming that the chlorate is present as potassium chlorate and the nitrate as sodium nitrate, the analysis above quoted corresponds to a mixture approximately as follows:

Potassium chlorate	37.19
Sodium nitrate	29.76
Sodium and potassium tetraborate	2.18
Boric acid	30.52
Undetermined	0.35
	<hr/>
	100.00

Your committee recommends that Oxychlorine be not approved and that this report be published.

The report of the subcommittee was adopted by the Council, and in accordance with the recommendation is published herewith.

W. A. PUCKNER, Secretary.

In commenting on the above report it is hardly necessary to call attention to the palpable untruthfulness of the furnished formula or its lack of correspondence to the real composition of the preparation, to the imposing claims made by its pseudo-scientific exploiters or the absurdities, from a chemical standpoint, of the statements made in their literature. These features are more or less common to all nostrums. The physician who prescribes or uses Oxychlorine under the impression that he is getting a definite and unique chemical compound described as tetraborate of sodium and potassium combined with oxychlorid of boron is, according to our chemists, getting simply a mixture of potassium chlorate, sodium nitrate (or, perhaps, sodium chlorate and potassium nitrate), and boric acid in about equal amounts. More than one-third of this mixture is potassium (or sodium) chlorate, drugs by no means harmless.

In order that there may be no suspicion of unfairness to the promoters of the preparation, we quote from one of the advertising circulars sent out by the Oxychlorine Company:

"Oxychlorine owes its recognition as a therapeutic agent to its six principal qualities:

"1. It will oxygenate the blood at the seat of application, maintain nutrition and heal an uninfected solution of continuity of first intention without scar formation.

"2. It will disorganize all pus and ferment-producing micro-organisms, their toxins, ferments and ptomaines.

"3. It will restore an inflamed mucous membrane to its normal condition, except where the membrane is sclerosed or atrophied.

"4. It will destroy pathogenic micro-organisms and their toxins in the blood current.

"5. It will stimulate the blood to absorb more oxygen in the lungs than it at the time carries. [We do not know what this means; perhaps the Oxychlorine Company does.]

"6. It is absolutely harmless to the tissues and will not destroy a living cell."

Surely these people must have access to physiologic and chemical authorities not found in modern medical libraries, or else their esoteric reseaches into the mysteries of life must have carried them far beyond the ken of our most advanced workers along these lines. The scientific world would receive with great interest information as to how a mixture of potassium chlorate, sodium nitrate and boric acid oxygenates blood, maintains nutrition and causes healing without scar formation. A mixture which will destroy micro-organisms and yet will not destroy a living cell certainly shows a fine sense of selection and discrimination not heretofore expected of a combination of chemicals or of a chemical compound. How like the wonderful elixir of medieval times, which was to the Christian a tonic and to the heathen a poison!

Here is another claim made for this nostrum:

"Two or three rectal injections of a one or two per cent. solution of Oxychlorine and ten grain doses given six to eight times per day is the best and most reliable treatment for typhoid fever."

If eighty grains of Oxychlorine contain thirty grains of potassium chlorate, three rectal injections each consisting of one pint of 2 per cent. solution, would contain approximately 160 grains of potassium chlorate. Such an injection might prove decidedly dangerous, especially when used by one ignorant of its true composition. However, the physician, not the promoters, bears the responsibility.

Oxychlorine sells at \$3.50 a pound; the ingredients can be obtained for about 44 cents a pound. Perhaps the margin of profit is intended as a reward due the promoters for the profound physiologic discoveries announced in their reading matter.—(*From the Journal A. M. A., July 6, 1909.*)

PANTOPON*

Report of the Council on Pharmacy and Chemistry

A referee of the Council reported that Pantopon was not eligible for inclusion with New and Nonofficial Remedies and recommended that the reasons for its rejection be published. The Council voted to adopt this recommendation and in accordance with its regular procedure the facts were reported to the manufacturers before publication. The firm's reply having been received, the Council authorized publication of the report which appears below.

W. A. PUCKNER, Secretary.

* See also page 294.

Pantopon

Under this name, the Hoffmann LaRoche Chemical Works submitted a pharmaceutical preparation of opium, consisting of a mixture of the hydrochlorids of the various opium alkaloids, as extracted directly from the drug, with more or less purification.

The Council holds that this name does not effectively suggest that the preparation is a mixture of opium alkaloids, as is required by the part of Rule 8 which reads:

"In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients."

and further explains:

"It is particularly important that actively poisonous or habit-forming drugs be not disguised under an innocently worded title."

The Council maintains that the name "Pantopon" does not sufficiently protect the public against the habit-forming and other dangers inherent in such mixtures. The manufacturers, on being informed of these objections, offered to substitute the name "Omopon." As this is open to the same objections, it could not be accepted by the Council. After much correspondence, the manufacturers refused to consider any other name which would more definitely suggest its composition.

The Council is therefore forced to reject the product and has ordered the publication of this report.

COMMENT: This is a case in which the rules of the Council are in conflict with the views of the manufacturers and the Council is bound in consistency to stand by its rules, which are framed to protect the public and the profession. Pantopon is not a definite chemical body, but a mixture of known substances—the several alkaloids naturally occurring in opium—and the Council's rules require that such a preparation should bear a name indicative of its composition. The name "Pantopon" although it might suggest opium to those well acquainted with Greek would not do so to all and it would be relatively easy for physicians to fall into the habit of using it indiscriminately without realizing fully the character of the preparation, and the preparation thus becomes a menace to the public.

As to the merits of the preparation itself, it is remarkable what a literature has been built about a simple mixture of the opium alkaloids. The preparation is claimed to be superior to opium because it is more readily soluble. This trifling advantage seems to have been sufficient, however, to justify the publication of a dozen or more pamphlets. But in reality, this preparation is nothing more, therapeutically, than a form of opium and, therefore, should be known to the physician as opium. The reports made of its action seem to indicate a lack of critical sifting of the evidence. Notwithstanding, both its

source and the fact that experimental and clinical reports emphasize its close resemblance to opium and morphin, one author (H. Haymann, "Pantopon in der Psychiatrie," *Münch. med. Wchnschr.*, No. 43, 1910) remarks that a habit was not produced, inferring that something in the character of the preparation prevented the formation of such a habit.

The one thing to be kept in mind in considering the claims made in the literature for this preparation is that it represents opium and opium only and any statements of its superiority to opium must be read in the light of the well-known tendency of writers to exaggerate the virtues of proprietary substitutes for official substances.—(*From The Journal A. M. A., April 29, 1911.*)

PAPAYANS BELL

Report of the Council on Pharmacy and Chemistry

The following report of a subcommittee was submitted to, and adopted by, the Council and its publication directed.

W. A. PUCKNER, Secretary.

Papayans (Bell) made by Bell & Co., Orangeburg, N. Y., is said to consist of the "digestive principle obtained by our own exclusive process from the fruit of *Carica papaya*, combined with willow charcoal, chemically pure sodium bicarbonate and aromatics." The following statement appears on the package: "For the treatment of dyspepsia, flatulence, nausea, vertigo, hyperacidity, palpitation and other symptoms of indigestion and the vomiting of pregnancy. Peritonitis, cholera morbus, alcoholism and seasickness." "Digests every variety of food, removes every symptom of indigestion, restores the entire digestive tract to a normal condition." The dosage is recommended as follows: "From one to three tablets before meals, or two hours after eating. In severe cases, three tablets dissolved in hot water and repeated as necessary."

A circular which accompanies the package details the therapeutic virtues of the preparation and contains what purports to be extracts from medical journals, in which Papayans is recommended.

Examination of specimens purchased in the open market showed them to contain the following ingredients: Charcoal, sodium bicarbonate, ginger, saccharin and oil of gaultheria. As the product is said to contain papain, the presence of enzymes was tested for, with the result that it was found to possess neither proteolytic nor amylolytic properties. The results of our examination are in accord with the results obtained by a member of the Council, who examined the product independently, and who writes:

"We have made some extended tests with Papayans Bell, and find that the tablets consist essentially of sodium bicarbonate and charcoal, with a little flavoring matter. We find no digesting power for starch or egg albumin. At any rate, no appreciable change follows in the albumin in three hours, and no conversion to sugar in the same time, or change of

starch to a point where the iodine reaction is weakened. The product seems to be practically inert."

It is recommended that Papayans Bell be refused recognition, and that publication of this report be authorized.

COMMENT: It will be remembered that two other products of Messrs. Bell & Company have been discussed in this department: Salacetin (Bell)¹ and Sal-Codeia (Bell)². Salacetin was examined with several "synthetics" which all turned out to be mere acetanilid mixtures. Salacetin, advertised as "a combination, with heat, of Salicylic and Glacial Acetic Acids and Phenylamine" when examined "was found to be a mixture and to contain the following ingredients approximately in the proportion given: Acetanilid, 43; sodium bicarbonate, 21; and ammonium carbonate, 20." Sal-Codeia (Salacetin-Codein) therefore, would be the same with codein added.

Papayans (Bell) seems to be consistently fulfilling the life-history of the average nostrum. Made of well-known drugs and invested by its manufacturers—or exploiters—with virtues absurdly disproportionate to the known properties of the alleged constituents of the nostrum, the preparation was introduced to the world *via* the medical profession. With the help of thoughtless physicians, aided by a skillful and aggressive advertising campaign and augmented by the "free sample" device, the business grew and prospered. The bottles with the name and address of the company blown in the glass and with the varied therapeutic indications for the nostrum printed both on the label and on a circular in which the bottle is wrapped, have carried the manufacturer's message to the drug-taking public.

Apropos of this point, the recent "literature" contains what purports to be endorsements of the nostrum by medical journals. Thus there is quoted from the *New York Medical Journal*, Jan. 2, 1909, in part, the following recommendation: ". . . we venture to suggest to our readers who have not tried this remedy that they prescribe one *original sealed package* of Papayans (Bell) and that they carefully note the results from its use." [Italics ours.—Ep.] Having seen an "original sealed package" we believe that we can predict the "results from its use." On any patient not mentally unbalanced, the result would be that the next dose of Papayans (Bell) he thought that he needed would be purchased from the druggist direct.

That such results are not hypothetical is evidenced by the statements of the exploiters of Papayans (Bell) that "the annual sale now exceeds four hundred million tablets." Assuming this statement to be true, it would be necessary for every physician in the United States to prescribe over three

1. See Index.

2. See Index.

thousand of these tablets every year—if they reached patients only through the physician! The company's own figures indicate that the time is about ripe to take care of this vast army of self-drugging laymen and recent circular letters seem to recognize it. The physician is notified that druggists are now furnished with Papayans (Bell) "in sealed packages of thirty and one hundred tablets." The medical man is told that the firm has "not forgotten the days when physicians' orders made our success possible" and it says it is "sincerely grateful to the doctors who gave us orders in the days when we were struggling for recognition." This tacit admission of the value of the physician as an unpaid agent for nostrum houses should be given thought by those physicians who prescribe such preparations.

While, so far as we know, Bell & Co. have not yet advertised in the daily press, they are not averse to furnishing the laity with samples when requested. An Ohio physician sent us the following letter received by a young woman who had written asking for samples:

Miss X—— Y——,
Z——.

Dear Madam: As requested, we are mailing you sample of our Papayans (Bell) for Indigestion.

If a sufferer from Indigestion, we want you to give it a thorough trial as directed and note remarkable results that we believe you will get from its use.

Kindly write us if you are unable to obtain it from your local druggist, as it is stocked by nearly every good drugstore in the United States.

Yours truly,

BELL & Co.

Evidently Bell & Co., while admitting that their financial success is largely due to the kindly, though misguided, efforts of physicians, are not going to let a little thing like loyalty to the medical profession interfere with a possible sale of their tablets.

THE L. D. JOHNS COMPANY

A discussion of the methods of Bell & Company would not be complete without reference to a concern which seems to be closely connected with it: the L. D. Johns Company, whose "only product" is a sugar-coated laxative tablet. Regarding the "sugar coated" tablet, a visitor at the place of business of Bell & Company and the L. D. Johns Company, wrote: "These companies apparently are not in possession of any tablet coating machines and in questioning on this point stated that some of their tablets were sent out to be coated." There is a sameness regarding the claims for the laxative tablets of the two companies that might lead one to suspect

that the same individual prepared both circulars. For instance:

CASCARANS (BELL)

"Taken as directed, it permanently removes the great majority of cases of habitual constipation."

" . . . a harmless vegetable preparation."

" . . . for the removal of pimples, yellowness and greasiness of the skin . . ."

" . . . one tablet at night, one night and morning, or, in severe cases, one three times a day, gradually decreasing the frequency of the dose as improvement permits."

DR. JOHN'S TABLETS

"Taken as directed . . . permanently remove the great majority of cases of habitual constipation, torpid liver and sick headache."

"A harmless vegetable remedy."

" . . . removes pimples, blotches, sallowness and greasiness of the skin . . ."

"One at night, one night and morning, or, in severe cases, one three times a day. Gradually decrease the frequency of the dose as improvement permits."

According to a leaflet sent out with samples by the L. D. Johns Company, the company is capitalized for \$500,000, divided into 50,000 shares at \$10.00 each; these shares are sold to those physicians who will agree "to prescribe the tablets at every suitable opportunity, to introduce them to other physicians" and "to promote their sale in every ethical way"! If the list of physicians' names and addresses which the company sends out as comprising the eastern stockholders is to be relied on, it would seem that many medical men are promoting their sale. In prescribing it is, of course, "necessary to specify 'Dr. Johns' Tablets No. XXX (*Original bottle*).'" As the name is on the bottle, it is not unbelievable that, as the company says in its prospectus, because of "our method of advertising, a large and very profitable business is being created." That the L. D. Johns Company expects to profit by the self-drugging which this method of prescribing fosters is evident:

"Physicians not stockholders in this company suffer from the continual refilling of their prescriptions and from the recommendation of the *preparation prescribed by patients* to others. [Italics ours.—Ed.] Our stockholders benefit by the refilling of their prescriptions and by these recommendations."

Put baldly the case amounts to this: Physicians who prescribe "Dr. Johns' Tablets" not only are likely to foster self-drugging, but they will reap dividends therefrom. Truly a nice business to be in!

While Bell & Company and the L. D. Johns Company are said to be entirely distinct, they are to be found at the same address at Orangeburg, New York, and as will be seen, the officers of the two companies are more or less related.

BELL & CO.

President - - -

Secretary - - -

Vice-President - - -

JOHN L. DODGE - - -

GEO. C. TENNANT - - -

CHAS. B. SMITH - - -

L. D. JOHNS CO.

President

Vice-President

Sec'y and Treasurer

EXPLOITING THE PROFESSION

Nostrum promoters have two simple ways of "working" the medical profession. The first—and the more profitable—is, by lavish distribution of free samples, to get physicians to prescribe the blown-in-the-glass "original package" with the inevitable result of large sales direct to the laity. By the second method, which is merely a modification of the first, the physician furnishes the capital for floating the nostrum and then takes his share of the resulting profits. There may not be quite as much money in the second method for the promoter, but then the risks are correspondingly less. If the firm fails, the stockholders are the losers; the promoter is not necessarily "out" anything. From a commercial standpoint, a combination of the two methods is, of course, ideal.—(*From The Journal A. M. A., Aug. 14, 1909.*)

PASSIFLORA AND DANIEL'S CONCENTRATED TINCTURE OF PASSIFLORA

Report of the Council on Pharmacy and Chemistry

The Council has voted that the drug *passiflora* (passion flower) be not accepted for New and Nonofficial Remedies, and has recommended that the following article be published in THE JOURNAL. It is considered important to call attention, not only to the lack of reliable evidence of the therapeutic value of *passiflora*, but also to the absurdity of the claims which are made for Daniel's concentrated tincture of *passiflora*, a preparation which has been already refused recognition.

W. A. PUCKNER, Secretary.

Passiflora

Although *passiflora* was introduced into medicine nearly seventy years ago, the literature concerning it is not very extensive; it is not mentioned in the standard works on pharmacology and its chemistry seems never to have been worked out. There appears, also, to be no record of experimental investigations of the drug with reference to its pharmacologic action, except an article by I. Ott,¹ who used "Daniel's concentrated tincture." Ott claimed that it lessened the reflex irritability of the cord and paralyzed motion by acting on the motor centers in the cord, and that it increased the rate of respiration. He also stated that because of its action on the vasomotor centers it reduced the frequency of the heart-beat and lowered arterial tension, but that these effects were only temporary.

On the clinical side the reports are not numerous and such as have been made do not appear to be based on very exten-

1. Med. Bull., 1898, xx, 457-464.

sive trials nor on conditions of observation that would entitle them to more than slight consideration. S. D. Bullington² reports good results, but no cure, in one case of epilepsy, and improvement in a case of insomnia. W. J. Stapleton³ recommends it in the form of a concentrated tincture (not the one advertised so extensively), and states that he has used it with great success in insomnia, hysteria, neurasthenia, neuralgia, nervous and physical prostration, and in alcoholism. In his opinion its action is most apparent in cases of nervousness due to causes other than pain. S. Harnsberger⁴ reports two cases in which partial blindness followed the taking of potassium bromid and passion flower.

Extravagant and inconsistent claims are made for Daniel's concentrated tincture of *passiflora* in the advertising literature, where it is recommended for such a wide range of diseases as asthma, typhoid fever, convulsions and paralysis.

None of the evidence is sufficient to show that *passiflora* has therapeutic value; hence it is deemed inadvisable to include this drug in the list of nonofficial remedies.—(*From The Journal A. M. A., March 19, 1910.*)

LIQUID COMBINATIONS CONTAINING PEPSIN AND PANCREATIN.

Report of the Council on Pharmacy and Chemistry of the American Medical Association.

The following report was submitted to the Council by a sub-committee:

To the Council on Pharmacy and Chemistry:—The U. S. Pharmacopeia, 8th revision, pages 334-5, states: "Pepsin and pancreatin in solution are incompatible with one another. If the solution be neutral or alkaline the pancreatin gradually destroys the pepsin, and if acid the pepsin destroys the pancreatin." The correctness of this statement has been amply demonstrated by the reports which have been submitted to the Council from time to time on liquid preparations claimed to contain these two ferments.

Thus an elixir was investigated which was by the manufacturers claimed to contain "the five active agents of digestion, pepsin, veg. ptyalin, pancreatin, lactic and hydrochloric acids," and to be "superior to all other remedies in dyspepsia and diseases arising from imperfect digestion," and the committee which investigated the article in question reported that "it was impossible to establish the presence of either the proteolytic or the amylolytic ferment."

2. Nashville Jour. Med. and Surg., 1897, lxxxi, 107-109.

3. Detroit Med. Jour., 1904-5, lv, 17.

4. Virginia Med. Semimonthly, 1898-9, iii, 392.

Similarly, on another liquid preparation, which was said to contain "pancreatin, pepsin, lactic and muriatic acids, etc." . . . "the combined principles of digestion to aid in digesting animal and vegetable cooked food, fatty and amylaceous substances," the committee reported "this product possessed only very slight proteolytic action and failed to digest 2 per cent. of its own weight of starch."

Again, the report on still another preparation stated: "But while it was said to contain pancreatin, the U. S. P. test for the valuation of pancreatin failed to indicate this ferment."

The report on yet another elixir, claimed to be "the only true digestant, because it contains the enzymes of all the glands which are necessary for digestion," showed that this article did not contain "any appreciable enzyme activity, either amylolytic or proteolytic."

The correctness of these findings of the committee of the Council was generally acknowledged by the manufacturers when their attention was called to the matter. Thus, one manufacturer of digestive ferments writes: "We will ask you to hold this matter up until you hear from us further on the subject. The reason for this request is that we have been going over our liquid preparations very carefully in order to be sure that after aging they would contain the ferments in that we put into them. The pancreatic ferments in alcoholic liquids seem to lose their strength."

The chemist for a large manufacturing house writes: "There are now on the market a number of preparations in which pepsin and pancreatin are combined in liquid form, and the result is that we have had numberless requisitions from our representatives that we also market such a preparation. As the result of this we have carried out a series of experiments no less than four or five times in order to determine whether pepsin, diastase, and pancreatin would retain their activity in the form of a syrup, wine or elixir. We have proven incontrovertibly that this cannot be done. While any two of these substances, or even all three of them, can be dispensed in the form of a liquid by the retail druggist and will retain their normal activity for as long a period as three to six weeks, yet if allowed to stand sufficiently long, they mutually destroy each other; so that in a combination of pancreatin and pepsin the pancreatic enzyme is lost and the pepsin greatly injured, and where diastase is present, both diastase and pepsin (or diastase and pancreatin) mutually destroy each other."

Since it has been demonstrated that pepsin and pancreatin cannot exist in one and the same solution for

any reasonable length of time, it becomes apparent that liquid preparations said to contain these two ferments are sold under impossible claims. It is therefore recommended:

1. THAT THE COUNCIL ON PHARMACY AND CHEMISTRY REFUSE TO APPROVE LIQUID PREPARATIONS THAT ARE CLAIMED TO CONTAIN BOTH PEPSIN AND PANCREATIN.

2. THAT THE MEDICAL PROFESSION THROUGH THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, BE ADVISED OF THE FALLACY OF EMPLOYING SUCH COMBINATIONS.

3. THAT THE ATTENTION OF MANUFACTURERS BE CALLED TO THE WORTHLESSNESS OF SUCH INCOMPATIBLE LIQUID PREPARATIONS OF PEPSIN AND PANCREATIN, AND THAT THEY BE URGED TO CEASE OFFERING SUCH PRODUCTS TO THE PROFESSION.

4. THAT, SINCE THE NATIONAL FORMULARY HAS RECOGNIZED A PREPARATION OF THIS KIND UNDER THE TITLE "ELIXIR DIGESTIVUM COMPOSITUM," THE AMERICAN PHARMACEUTICAL ASSOCIATION BE REQUESTED TO INSTRUCT ITS COMMITTEE ON THE NATIONAL FORMULARY TO OMIT THIS PREPARATION FROM THE NEXT EDITION.

The recommendations of the subcommittee were adopted by the Council and publication of the report directed.—*From The Journal A. M. A., Feb. 2, 1907.*)

W. A. PUCKNER, Secretary.

PHENACETIN, SULPHONAL AND TRIONAL

Report of the Council on Pharmacy and Chemistry, Holding These Names to be Non-Proprietary

The following report of the Committee on Patents and Trademarks was adopted by the Council and the descriptions in New and Nonofficial Remedies, 1912, have been modified as directed in the report.

W. A. PUCKNER, Secretary.

REPORT OF THE COMMITTEE ON PATENTS AND TRADE-MARKS

Recently the Council voted to list lanolin in "New and Non-official Remedies" as a synonym for *adeps lanæ hydrosus*, its pharmacopeial name. This action was in accord with the generally recognized principle that the name used by a patentee to designate a patented article becomes the common name of such article after the patent has expired. This principle, and also the principle that a generic title—or common name—cannot be legally continued as a trade-mark, have

been generally recognized and are thoroughly well established by decisions of the courts.¹

So far as medicines are concerned, the same principles have been directly established by a decision of the Supreme Court of the state of New York in the lanolin case.²

Your committee believes it important that the medical profession know the facts regarding this subject of names of patented articles, namely, that when the patent expires, the name of the article becomes public property, provided the name has been generally used for the article. Besides adeps lanæ hydrosus or lanolin, there are three preparations in the U. S. Pharmacopeia that come in this category, all of which have been widely used under the proprietary names given by the patentees. These are acetphenetidin, sulphonmethane and sulphonethylnmethane, sold, respectively, under the names phenacetin, sulphonal and trional. The patents on these products having expired, anyone can make and sell them. They are now official in many foreign pharmacopeias, with direct or indirect recognition of their trade names in practically all.

It is evident that the names "phenacetin," "sulphonal" and "trional" have become generic designations for the several products to which they have been applied.

Therefore, it is recommended that the present descriptions for these articles in New and Nonofficial Remedies be modified to indicate more clearly that the names "phenacetin," "sulphonal" and "trional" are synonyms for the official titles acetphenetidin, sulphonmethane and sulphonethylnmethane, respectively, and that the tests of identity and purity prescribed in the U. S. Pharmacopeia should apply to the products dispensed under these titles.—(*From The Journal A. M. A., April 27, 1912.*)

PHENOL SODIQUE

Report of Examination by Council on Pharmacy and Chemistry and Comments

An examination of this article by a subcommittee of the Council on Pharmacy and Chemistry revealed unscrupulous

1. For example, the frequently quoted Singer Sewing Machine case may be mentioned. This case was decided by the U. S. Supreme Court (per Justice White, May 8, 1896), on appeal from decree of Circuit Court of U. S. for Northern District of Illinois. The following is an extract of the decision (163 W. S. 169): It is the universal American, English and French doctrine "that where, during the life of a monopoly created by a patent, a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented, this name passes to the public with the cessation of the monopoly which the patent created." . . . The decision emphasizes, of course, that the defendant must not carry on unfair or deceptive competition in business. The principles laid down above are further emphasized by the opinions recorded in *Green Tweed & Co. v. Mfgs. Belt Hook Co.* (158 F. R. 640).

2. *Jaffe et. al. v. Evans & Sons, limited*, N. Y. State Rep., Vol. 109, Suppl. 75, p. 257, *THE JOURNAL A. M. A.*, Sept. 9, 1911, lvii, p. 906.

claims which are a positive menace to public health. In view of this the Council has directed the publication of the following comments.

W. A. PUCKNER, Secretary.

COMMENTS

Phenol Sodique was not submitted to the Council by the manufacturers, but was taken up because it is advertised to both physicians and the public. Some advertisements state: "Phenol Sodique was the standard antiseptic thirty years ago. It's the same to-day." If this were true, it would be high time to call a halt; for the unscrupulous claims made for this nostrum, and the effrontery with which they are pushed, are only rivaled by those of the most shameless "patent medicines."

The firm of Hance Bros. & White poses as a reputable pharmaceutical manufacturing house, but how it can reconcile this position with their method of exploiting this product passes all understanding. In the original package of Phenol Sodique (the latest was purchased on June 20, 1907), there are little booklets and a folder describing the marvelous properties of the nostrum. The booklets do not refer to Phenol Sodique, but they are very instructive. They are entitled: "Dyspepsia," "Worm News," and "Catarrh," advertising "Dyspepsia Stop"—some form of dyspepsia tablets, a remedy for round worms, and "Catarrh Stop," apparently some mild antiseptic tablets. These booklets are addressed frankly to the laity, although recourse to a physician is, generously, advised if the patient does not respond to treatment! The folly of prescribing "original packages" which contain popular literature has been so often emphasized that further comment seems superfluous. The following from "Catarrh," however, throws an interesting sidelight on the scientific status of Hance Bros. & White:

"Catarrh is due to a minute insect in the inner lining membrane of the nose. This insect multiplies rapidly, and, unless checked and destroyed, will produce the worst results."

To return, however, to Phenol Sodique: The folder is also evidently intended for the lay public rather than for physicians; at least, if we are to credit Hance Bros. & White with any intelligence whatsoever. It is headed: "Montyon Prize of Encouragement, Awarded by the Institute of France, 1861." This is rather ancient, but what follows indicates that a little restraint would have been better than encouragement. The circular is a compact treatise on self-medication—apparently all that is necessary to retain or regain health is the use of Phenol Sodique, externally and internally. The following conditions are among those specifically named as amenable to this remedy: Small-pox, measles, scarlatina, erysipelas, puerperal

fever, typhoid fever, cholera, diarrhea, cramps, burns and scalds, bites, cuts and wounds, excoriations, chilblains, chaps, sore throat, scratches, catarrh, tetter, sunburn, swollen veins, ulcers, hemorrhages, bruises, piles, gangrene, carbuncle, itching, insect stings, ivy poison, cold in the head, bunions, inflamed eyes, eczema, ringworm, rheumatism, pains, toothache, seat worms, etc.—besides numerous diseases of animals.

No antiseptic, whatever its composition, could by any possibility accomplish anything like what is claimed for Phenol Sodique, so that the composition of the article is really of little importance. This is evidently appreciated by the manufacturers, for they have kept the composition a profound secret, except in so far as it is implied in the name. An inquiry addressed to Hance Bros. & White, under date of April 27, 1907, six months ago, has remained unanswered. The Council, therefore, directed an analysis of Phenol Sodique. This was carried out at the chemical laboratory of the American Medical Association, and a check analysis was made by an independent firm of chemists.

This shows that Phenol-Sodique contains something like 0.5 or 0.66 per cent. of phenols, dissolved in about 0.75 per cent. of sodium hydroxid. In other words, it appears to be essentially a very dilute alkaline solution of some impure coal-tar product, presumably a crude carbolic acid. The analysis could not profitably be carried further, because the amount of the antiseptic agent is so very small.

The consideration of this analysis, in connection with the claims made for Phenol-Sodique, leaves little doubt as to one reason for the secrecy concerning its composition; although no educated physician could be deceived into believing for a moment that Phenol-Sodique could fulfill the promises of its promoters, even if it were "the best antiseptic, hemostatic and disinfectant on the market," as the manufacturers say in their advertisements.

From its composition, it can only have the very moderate and ordinary antiseptic qualities of a dilute phenol or cresol solution, modified only to a very slight extent by the free alkali. According to the manufacturers, however, "Phenol-Sodique is a wonderful preparation." Just how wonderful appears from these extracts from the dissertations in the pamphlet which is enclosed in the package.

"Catarrh, Old Colds, etc.: Drink every morning and evening a glass of water containing ten to thirty drops of Phenol-Sodique..."

"Small-Pox": To prevent attack take internally three or four times a day, fifteen or twenty drops of Phenol-Sodique in one tablespoonful of sugar and water. . . .

"Measles, Scarletina and Erysipelas: Same treatment as for Smallpox.

"Typhoid Fever: To prevent attack take internally three or four times a day, fifteen or twenty drops of Phenol-Sodique.

"Cholera: To prevent spread sawdust or sand wet with Phenol-Sodique, in apartments.

"The very best precaution is to drink, morning and evening, a glass of water containing from fifteen to thirty drops of Phenol-Sodique. . . .

" . . . Premonitory Diarrhea: . . . Drink a teaspoonful of Phenol-Sodique diluted in an ounce of water. . . ."

This is the kind of therapeutics and prophylaxis taught to the medical profession by their self-appointed instructors, the proprietors!

But this matter has a serious as well as a ludicrous side: What is the proper epithet to apply to those who, knowingly and intentionally, impress on the ignorant lay public that one can with impunity expose himself to small-pox, cholera, typhoid or scarlet fever, or measles, by taking a few drops of very dilute carbolic acid, or by sprinkling a little on sawdust? What must be the consequences to those who trust in these assurances? And what should be the lawful penalty for those whose blunted moral instincts permit them wilfully to endanger the lives of others for a little financial gain? It would be interesting to know the real opinion of the responsible members of the firm of Hance Bros. & White on these questions.

The Montyon Prize was awarded by the French Institute in 1861—forty-six years ago—how many victims a year?—(*From The Journal A. M. A.*, Nov. 9, 1907.)

QUININ ARSENATE

Report of the Council on Pharmacy and Chemistry

The advisability of admitting quinin arsenate as a non-proprietary article to New and Nonofficial Remedies was taken up for consideration by the Council and the product was referred to a committee on chemistry. This committee recommended that the opinion of the staff of clinical consultants should be obtained relative to the value of this product. This was done and on the staff's recommendation the drug was refused recognition and the Council ordered the following statements to be published.

W. A. PUCKNER, Secretary.

Quinin arsenate is the secondary quinin salt of arsenic acid. It contains 8 per cent. of elementary arsenic and 69 per cent. of anhydrous quinin. 0.1 gm. ($1\frac{1}{2}$ grains) would be equivalent to approximately .092 gm. ($1\frac{9}{20}$ grains) of quinin sulphate and to 0.032 gm. ($\frac{1}{2}$ grain) of sodium arsenate (five times the official dose). It is thus seen that the proportions of the two chief ingredients in the salt are such that an efficient dose of quinin cannot be given in this form without introducing a dangerous amount of arsenic. As it does not appear that this preparation possesses any properties that might not be found in a mixture of quinin salts and various preparations of arsenic, and as it has no advantage over other forms of

arsenic now available there is no reason for including it among unofficial non-proprietary remedies. Attempts to substitute it for other quinin salts would be likely to lead to overdosing with arsenic.—(*From The Journal A. M. A., July 16, 1910.*)

QUININ TANNATE

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council and its publication authorized. In accordance with the recommendation, the description of quinin tannate, appearing in New and Nonofficial Remedies department of this issue, requires a quinin content of not less than 29 per cent. and lists, as brands which comply with this standard, the products sold by the Mallinckrodt Chemical Works, the New York Quinin and Chemical Works and the Powers-Weightman-Rosengarten Company.

W. A. PUCKNER, Secretary.

Quinin tannate, being almost insoluble in water, is practically tasteless and therefore adapted for administration to children in the form of mixtures (suspensions). Although the absorption of this quinin salt is claimed to be somewhat uncertain and its tannin content is an objection, the Council decided to describe it in New and Nonofficial Remedies because of its general availability and its rather general recognition. But in view of the common unreliability of little used substances, the actual description of quinin tannate in New and Nonofficial Remedies was postponed until the market supply could be examined and standards for the preparation formulated.

An exhaustive and critical search of the literature, as well as a chemical investigation of this substance, has been made in the Association's chemical laboratory. The results of this investigation were reported by W. A. Puckner and L. E. Warren in a paper read before the Scientific Section of the American Pharmaceutical Association, and to be published in the Annual Reports of the Chemical Laboratory. In brief the findings are:

Quinin tannate is official in most foreign pharmacopeias, but not in that of the United States. In some of them methods for preparation are given and the official product in all cases is required to contain not less than 30 per cent. of anhydrous quinin alkaloid. The methods prescribed by these pharmacopeias, however, were found in the Association's laboratory to yield products which did not contain the stated amount of alkaloid. As a result of considerable experimentation and consultation with the manufacturers of quinin tannate in this country, a simple method of making the substance was worked out, which will enable anyone at all familiar with pharmaceutical operations to make a preparation of good quality.

RESULTS OF AN EXAMINATION OF FOUR BRANDS OF QUININ TANNATE

Number or Brand.	Water (Loss Anhydrous at 100°).	Quinin.	Ether-Soluble Matter.†	Sulphate.	Chlorid	Taste of Filtrate.
P. W. R.....	7.88	29.30	0.10	Distinct turbidity.....	Noticeable opalescence.....	Noticeably bitter.
Brunswick (M. C. W.)	6.50	29.51	0.19	Absent.....	Very marked opalescence...	Noticeably bitter.
N. Y. Q.....	8.05	33.36	0.36	Distinct turbidity.....	Noticeable opalescence.....	Noticeably bitter.
Merck.....	9.06	33.97	9.02	Very faint opalescence....	Very faint opalescence....	Very bitter.

† In general, the values given in this column should indicate the presence of uncombined alkaloid, but quinin tannate is slightly soluble in anhydrous ether; hence the test must be carried out under arbitrary conditions and the residue obtained tested for uncombined alkaloid. The three specimens in which the ether-soluble matter amounted to less than 0.4 per cent. contained no uncombined alkaloid.

Four commercial brands of quinin tannate were examined with the results shown in the accompanying table. From these findings it appears that the quinin tannate of the New York Quinin and Chemical Works is of good quality and contains more than 30 per cent. quinin. The products of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents) and the Powers-Weightman-Rosengarten Co. are satisfactory except that their quinin content is somewhat low. The Merck brand contains about 9 per cent. of free quinin, is bitter and is, therefore, not fit for use. The poor quality of this brand is a further illustration of the need of controlling the quality of medicines, particularly when these are not of much commercial importance.

Inasmuch as the authors have shown that quinin tannate with more than 30 per cent. quinin can readily be made, a preparation with less alkaloid should not be permitted. However, as two brands approach this standard and, as the interested firms will not find it difficult to meet the proposed standard, the referee recommends a temporary standard of not less than 29 per cent. quinin, which standard is to be increased so as to require a quinin content of not less than 30 per cent. by Jan. 1, 1913. It is recommended that the description of quinin tannate submitted be accepted for inclusion with New and Nonofficial Remedies and that the product of the New York Quinin and Chemical Works, of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents), and of the Powers-Weightman-Rosengarten Co. be listed as brands which meet the requirements of this description. It is further recommended that, beginning with 1913, a quinin content of from 30 per cent. to 35 per cent. be required.

In order that physicians may know the facts in the case, it is recommended that publication of this report be authorized.

COMMENT: In order that pharmacists might be in a position to dispense a good quality of quinin tannate, the examination of the Association's chemical laboratory above referred to was presented to the American Pharmaceutical Association at its recent annual meeting in Boston. While the very simple directions for its preparation which were worked out should make it possible for every pharmacist to prepare his supply of this drug, it was feared that the pharmacist would continue to place his faith in the drug as found on the market and hence the quality of the several available brands was also given in the report. This would have enabled the pharmacist to give preference to those brands which were shown by examination to be of a satisfactory grade. Unfortunately for the pharmacist, as well as for the physician and his patients, those interests which are not in sympathy with the Association's policy of giving publicity to the makers of worthless or adulterated drugs, appear to have been in control when the paper was read and were able to carry a motion that the names of manufac-

turers be omitted from the paper when it should appear in the American Pharmaceutical Association's publication. In view of this, physicians who use quinin tannate should, in their prescription, take the precaution to specify a brand of the drug which was shown to be reliable or, perhaps better still, indicate that they want a brand which corresponds with the standards established by the Council, by appending the letters N. N. R., thus "Quininæ tannas, N. N. R."—(*From The Journal A. M. A., Oct. 14, 1911.*)

STRYCHNIN ARSENATE

Report of the Council on Pharmacy and Chemistry

The Council, after considering the advisability of admitting to New and Nonofficial Remedies the unofficial, non-proprietary preparation, strychnin arsenate, decided not to admit it, and authorized publication of the following report.

W. A. PUCKNER, Secretary.

Strychnin arsenate is a compound of the alkaloid strychnin with arsenic acid, containing between 68 and 70 per cent. of anhydrous strychnin. It is a white, crystalline powder of small, colorless or faintly yellowish, transparent or slightly opaque prisms, or in white acicular crystals, odorless but extremely bitter. It is slowly soluble in about 20 parts of water at 25 C., more readily soluble in hot water, slightly soluble in alcohol, insoluble in chloroform or ether.

After considering the properties of this substance the Council voted not to accept it for N. N. R., as there is no sufficient reason for combining two powerful remedies in such form. As a chemical combination there appears to be no objection to it, as the compound is sufficiently definite, but the readiness with which the salt separates into its constituents, strychnin and arsenic acid, indicates that it can present no advantages over a mixture of its components so far as pharmacologic action and therapeutic use are concerned. On the other hand, it is both unscientific and irrational to prescribe two such energetic remedies having quite different indications under such a fixed form that the efficient dose of one may involve an unsuitable and perhaps dangerous dose of the other.

If a dose of strychnin arsenate equivalent to 0.002 gm. (1/32 grain) of strychnin sulphate is given, the patient would receive about 0.00063 gm. (1/100 grain) of arsenic acid, which is about one-fifth the official dose. On the other hand, strychnin arsenate cannot be used to bring out the therapeutic effects of arsenic in cases in which it is necessary to push the latter remedy, because this would necessitate the giving of dangerous doses of strychnin. A much more appropriate and scientific

procedure would be to prescribe the medicines separately or in an extemporaneous pill or solution in which the proportions of the two ingredients could be changed from time to time according to the varying indications in the particular case.—
(From *The Journal A. M. A.*, Sept. 24, 1910.)

SUCCUS ALTERANS

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council:

It is believed that unwarranted and exaggerated therapeutic claims are made for Succus Alterans by its manufacturers, Eli Lilly & Co., Indianapolis. In view of the disastrous results which may follow, if, from the statements made, physicians should be led to rely on the product as a treatment for syphilis, it is recommended that Succus Alterans be refused recognition and that this fact be published with comments.

W. A. PUCKNER, Secretary.

COMMENT: Succus alterans is a preparation which has been put on the market for some years by Eli Lilly & Co., as a remedy for syphilis. The serious character of this disease and especially the deplorable results that ensue from its improper or insufficient treatment, should make a firm hesitate to advise any treatment for it which experience has not demonstrated to be at least as efficacious as that which is generally accepted and well proved. Succus alterans is the result of a combination of circumstances; no one person is responsible for it. It was probably the natural desire for a remedy free from the occasional injurious results of mercury that led Dr. J. Marion Sims to advocate the use of a collection of indigenous American plant drugs, sarsaparilla, stillingia, xanthoxylum, etc., which had a local reputation for the cure of syphilis. These drugs are supposed to be inert when the dried plants were used, and this gave an opportunity for the development of a rostrum. The ingredients are well known, but as their virtues are supposed to be lost in drying, the physician can not have his druggist compound them, but must, perforce, prescribe the proprietary combination.

Those who consented to experiment with the new remedy soon found that the claims to curative properties were unfounded, but the strong commercial interests backing it have prolonged its life to the present time. Authorities on syphilis either say nothing about the preparation or mention it merely to condemn; but the proprietors of the nostrum continue to assert that it is not only practically a specific in syphilis, but now recommend it for various derangements of the blood and all sorts of skin diseases.

This being the case, what shall the wise physician do? Shall he blindly follow an authority of a past generation or shall he recognize that the claims of an interested manufac-

turer ought not to weigh against the consensus of his present-day confrères who have given the treatment of syphilis their special attention? The exploitation of such a preparation is deserving of strong censure. By such methods the firm places itself on the same plane as those nostrum venders, who advertise certain antiseptic sprays and gargles as cures for epidemic meningitis and diphtheria and thereby deprive credulous victims of the curative antitoxin treatment. Succus alterans is not a new remedy on trial for its possibilities of improvement in therapeutics; it is an old mixture which has been tried and found wanting.—(*From The Journal A. M. A., June 26, 1909.*)

SULPHO-LYTHIN

Report of the Council on Pharmacy and Chemistry

Sulpho-Lythin is sold by the Laine Chemical Company, New York. In the literature sent to physicians it is said: "This product, the sulpho-phosphite of sodium and lithium (non-effervescent), is entirely new and is unique in its action."

Chemical analysis of a specimen of Sulpho-Lythin purchased in the open market indicated its composition to be:

Sodium sulphate, anhydrous.....	10.51
Disodium hydrogen phosphate, anhydrous.....	56.67
Sodium thiosulphate, anhydrous.....	20.78
Sodium chlorid	5.98
Lithium, as citrate.....	3.12
Sulphur, free	0.16
Moisture	1.53
Loss	1.25

The examination, therefore, shows that Sulpho-Lythin is a mixture consisting mainly of sodium sulphate and sodium phosphate and sodium thiosulphate. The statement that it is a "sulpho-phosphite of sodium and lithium," therefore, is not correct, and a statement that "it is entirely new and unique in its action" appears unwarranted and misleading. It is, therefore, recommended that the preparation be refused recognition. It is also recommended that an article be prepared for publication calling attention to the exaggerated claims made for Sulpho-Lythin.

The recommendations of the subcommittee were adopted by the Council and in accordance therewith the report is published, with comments, substantially as follows: The formula means that it is a solution of well-known salts, some of them under partially disguised names. Every one knows what Glauber's salts are good for. Disodium hydrogen phosphate is ordinary common sodium phosphate. Sodium thiosulphate is familiar as sodium hyposulphite, the "hypo" of the photographers. Every one knows, of course, that sodium chlorid is common salt. Examination and analysis of various specimens of this product demonstrated that its composition is not

always the same. As an indication of the ignorance of the promoters of this nostrum it is interesting to note that the label on one of the bottles purchased states that it is a "sulphophosphate" instead of a sulphophosphite. Extravagant claims are made for this simple mixture of laxative salts, and these with the methods of using it are printed on the labels, and while it is claimed to be only advertised to the profession, the physician is repeatedly advised in the advertisements to "order always an original (six ounce) bottle to prevent substitution." The natural result of this would be, of course, to put the patient in the way of prescribing it for himself and to spread the advertisement of the drug among the public. Difficulty has been experienced in finding out who the promoters of this nostrum are and the correspondence in regard to it is published. They seem to prefer to be known by their corporate title of Laine Chemical Company only. It is a sample of many other so-called ethical proprietary drugs, most of which are simple mixtures of well-known drugs which physicians are using every day and which require no skill in their compounding. Their proprietors not only presume to sell and advertise medicines but also to tell the physicians how to treat their patients.—(*Abstracted from The Journal A. M. A., Dec. 8, 1906.*)

TYREE'S ANTISEPTIC POWDER*

Report of the Council on Pharmacy and Chemistry with Comments

Tyree's antiseptic powder was assigned for examination to a subcommittee of the Council, which made the following report:

To the Council on Pharmacy and Chemistry:—Your subcommittee, to whom was assigned Tyree's Pulv. Antiseptic Comp., marketed by J. S. Tyree, Washington, D. C., reports as follows: The label on the package states: "This preparation is a scientific combination of borate of sodium, alumen, carbolic acid, glycerin and the crystallized principles of thyme, eucalyptus, gaultheria and mentha, in the form of a powder," etc.

The statement that the powder contains the crystalline principles of thyme, eucalyptus, gaultheria and mentha is vague and misleading, since the chief medical constituents of eucalyptus and gaultheria are liquids, but it tends to convey the impression that the powder contains the essential constituents of these drugs, namely, thymol, oil of eucalyptus or eucalyptol, oil of wintergreen, or methyl salicylate, and menthol.

The literature supplied to physicians *claims* its composition to be: "Parts, sod. bor., 50; alumien, 50; ac. carbol., 5; glycerin, 5; the cryst. principles of thyme, 5; eucalyptus, 5; gaultheria, 5, and mentha, 5."

* For another article on this product, see Index.

The composition, therefore, might be expressed as follows:

Sodium borate (borax).....	50 parts, or 38.46 per cent.
Alum	50 parts, or 38.46 per cent.
Phenol (carbolic acid).....	5 parts, or 3.85 per cent.
Glycerin	5 parts, or 3.85 per cent.
Thymol	5 parts, or 3.85 per cent.
Oil of eucalyptus or eucalyptol	5 parts, or 3.85 per cent.
Oil of gaultheria (or methyl salicylate)	5 parts, or 3.85 per cent.
Menthol	5 parts, or 3.85 per cent.

Analysis of specimens purchased from different sources in the open market were made under our direction. The reports of the chemists show that Tyree's antiseptic powder contains no borax, or mere traces only, and that it contains no alum, or mere traces only. Instead, the analyses show that boric acid and zinc sulphate are the essential constituents. The amounts of carbolic acid, thymol, menthol, etc., contained in the powder, if present, were far below the quantities indicated by the formula. The presence of glycerin could not be demonstrated, and, if present, the amount must be very small.

One chemist reports: The result of analysis shows that different samples differ slightly in composition, but that the following indicates the average composition of the product:

	Per cent.
Zinc sulphate, anhydrous.....	15.56
Boric acid	81.26
Volatile matter at 100° C. for four hours.....	0.45

The undetermined portion consists of salicylic acid, carbolic acid, menthol and eucalyptol; possibly other antiseptic agents may be present in very minute quantities.

From the above findings we conclude that Tyree's antiseptic powder is a mixture of boric acid and dried zinc sulphate and antiseptic bodies, such as menthol, salicylic acid and carbolic acid, eucalyptol, etc. From this it can be readily seen that the label which is supposed to set forth the composition of Tyree's antiseptic powder is not in accord with the facts. The powder does not contain either borate of sodium or alum, and the presence of glycerin could not be established. The antiseptic agents, exclusive of the boric acid, are present only in small amounts.

The report of another analysis concludes as follows:

It evidently contains less than the amount stated of the principles of thyme, eucalyptus, wintergreen and mint. It also contains a very small amount indeed of carbolic acid, much less than that stated. We have been unable to identify certainly the presence of glycerin, and it is doubtful if it be present.

From the result of the analysis we feel confident that the preparation is to all intents and purposes a mixture of boric acid and sulphate of zinc.

The carbolic acid, thyme, eucalyptus, wintergreen, etc., if present, are present only in sufficient amount to give the compound a satisfactory odor.

In view of the fact that J. S. Tyree has given wide publicity to a formula which the preceding report has shown to be a

deliberate misrepresentation of facts, it is recommended that the article be refused recognition by the Council on Pharmacy and Chemistry, and that this report be published in *THE JOURNAL of the American Medical Association*.

The recommendation of the subcommittee was adopted by the Council in accordance with which the report is published.

W. A. PUCKNER, Secretary.

Mr. Tyree, in a letter to Dr. Simmons (which he states he writes at the request of Dr. Kebler, of the Drug Laboratory of the Department of Agriculture, though he is under no moral or financial obligation to do so), says that it has been his intention to inform the medical profession of his reasons for changing the formula of Tyree's Antiseptic Powder from an alum and borax base to a boracic acid and zinc base. He states that this change was made at the suggestion of prominent physicians connected with hospital clinics on nose and throat, venereal and other conditions and that he has had in contemplation the omission from the label of the various conditions to which the preparation is applicable.

Mr. Tyree, it will be seen, assumes the right to sell to physicians a preparation with a descriptive formula which he acknowledges is false, and that he presumes to use his own pleasure as to the time when he will inform them of its true composition.

Mr. Tyree does not state when he changed the formula. We do not know whether it was a year ago, five years ago or ten years ago, but we do know that the package which was used in making the first analysis was purchased as early as last February, and the first chemist's report was submitted to the Council March 5, 1906. On April 4 Mr. Tyree was notified by the Council that the composition of "Tyree's Antiseptic Powder" did not correspond to the formula published by him.

Whether or not Mr. Tyree is justified in offering our profession a preparation as composed chiefly of borax and alum when in reality it is chiefly composed of boric acid and zinc sulphate, we leave physicians to judge.

Discrepancies Between Facts and Claims—Unfortunate Attempts of Mr. Tyree at Explanation

A report from the Council on Pharmacy and Chemistry on Tyree's Antiseptic Powder appeared in *THE JOURNAL*, Oct. 20, 1906. This showed that the preparation, advertised as a "scientific combination of borate of sodium, alumen, carbolic acid, glycerin and the crystallized principles of thyme, eucalyptus, gaultheria and mentha, in the form of a powder," was essentially a mixture of boric acid and sulphate of zinc—approximately four-fifths of the former to one-fifth of the latter. "The carbolic acid, thyme, eucalyptus, wintergreen, etc., if present, are present only in sufficient amount to give the compound a satisfactory odor." As will be remembered, in the

correspondence published at that time, Mr. Tyree attempted to explain the discrepancies between his statements and the proved facts by intimating that he had recently changed the formula, and that it was his intention "on or about the first of February to state to the medical profession his reasons for changing the formula," and that the change had been made "a short time ago, at the suggestion of several prominent gentlemen." Since that time, through circulars and other advertisements, Mr. Tyree has attempted to explain the matter in various ways. In his latest circular letter he seems to make a deliberate attempt to mislead our profession and to misrepresent facts to a degree that makes it almost impossible to believe that the circular came from a man who claims to be honorable.

First, however, we shall take this opportunity to publish some matter which we have had in reserve since the first exposé was made last October. When it was realized that Mr. Tyree intended to defend himself by claiming that a change had recently been made in the powder, we took occasion to try to secure some of the preparation that had been on the market for a long time. In this we succeeded very well. From a Chicago druggist one package was bought which had been in the store at least since July, 1902—how much longer is not known. The druggist from whom the powder was obtained bought the drug store in July, 1902, and this powder was on hand at that time, none having been bought since. This particular powder was analyzed by a chemist, who found the composition practically the same as that given in the Council's report, this chemist estimating that it contained approximately 81 per cent. boric acid and 14 per cent. anhydrous zinc sulphate. Bearing in mind that for at least four years and ten months Tyree's Powder has been essentially the same as it is to-day, this letter is very interesting: (The comments in brackets are, of course, ours.)

"J. S. TYREE,

"CHEMIST,

"WASHINGTON, D. C.

"April 16, 1907.

"Dr. _____,
"_____,

"*My Dear Sir:*—Doctors and medical publications of extreme and prejudicial minds often hold and express opinions in honorable faith, but like all critics, they are not always familiar with the conditions composing their opinions, and are often given to expressing them without knowledge of the true motives and facts in the case.

"If you will read an article that appeared in one of the medical weeklies some times ago [THE JOURNAL of the American Medical Association, of course] and which has been copied by several of its offsprings [not many we regret to say]

relating to Tyree's Antiseptic Powder, you will see that I had previously informed the editor as well as his council of investigators, that at the suggestion of prominent physicians, extensive clinical experimenting [sic] were being made with some slight [!!!!] changes in my powder, the object being to develop and extend its usefulness in new lines. [It had already been recommended for about everything.] and at the same time make it more acceptable to the general run of the profession. I also notified this editor that these investigations would not be completed until the first of the present year, after which time these slight [!!!!] changes in the formula of Tyree's Powder would be announced. [It is now the middle of May; when and where were the changes announced?]

"There is nothing new, startling or dangerous in such changes in formulas. The Pharmacopeias and national books of authority are continuously improving their formulas. It is the same with every preparation on the market. [Mr. Tyree, as a nostrum maker, is in a position to know. His plea evidently is: "I am no worse than others."] The apparent difficulty in my case is caused by my exceptional frankness ["exceptional frankness" is good under the circumstances] with the profession in telling them [when and where?] about this improvement before I was ready to announce full details and particulars, or place my improved [sic] powder on the market.

Yours very truly,

"J. S. TYREE."

For years Mr. Tyree has been misleading physicians by making false statements regarding the composition of his powder and regarding its value as a therapeutic agent. When exposed he tries to defend himself and his business by statements and excuses that are worthy of a schoolboy trying to get out of a bad scrape. We would respectfully suggest to him that he either take his wonderful powder off the market, or—which would probably amount to the same thing—tell the truth, and the whole truth, about it.—(*From The Journal A. M. A., May 18, 1907.*)

1. From the circular accompanying a package bought over a year ago, we find the powder recommended for the following conditions: "For Leucorrhea, Gonorrhea, Vaginitis, Pruritus, Ulcerated conditions of the mucus membrane. . . . Scrofulous, Syphilitic and Varicose Ulcers. . . . for Spraying the Nose and Throat, . . . for immediate deodorizing and disinfecting . . . for prickly heat, poison oak, squamous eczema and other conditions of similar nature. . . . As a deodorant and prophylactic in dental work, . . . for disinfecting offensive cavities. . . . for profuse and offensive perspiration, swelling, soreness and burning of the body and feet. . . . As a delightful toilet preparation after the bath and shaving."

2. Last January the national Food and Drugs Act went into effect; one of its provisions is that the label must not lie. This is not the exact verbiage, but it means the same thing. So, instead of repeating the old false statements, the new label of Tyree's antiseptic powder contains nothing whatever about the composition; the law does not require that it should—unless the preparation contains certain specified drugs. Why is the formula omitted?

THIALION

Report of the Council on Pharmacy and Chemistry

The following report was submitted to the Council by a subcommittee which examined Thialion (Vass Chemical Company):

To the Council on Pharmacy and Chemistry:—We beg leave to report on Thialion as follows:

Thialion is sold by the Vass Chemical Co., Danbury, Conn. In the literature supplied to physicians and in the advertisements in medical journals, Thialion is stated to be "a laxative salt of lithia" with the chemical formula " $3\text{Li}_2\text{O} \cdot \text{NaO} \cdot \text{SO}_3 \cdot 7\text{H}_2\text{O}$." Sodio-trilithic anhydrosulphate" is given as a synonym. An elaborate graphic or structural formula is also given.

According to analyses, this preparation is a mixture consisting chiefly of sodium sulphate and sodium citrate with very small amounts of lithium, the average of several estimations indicating the following composition:

Sodium citrate	58.6
Sodium sulphate, anhydrous.....	26.6
Sodium chlorid	3.3
Lithium citrate, anhydrous.....	1.8
Water	9.7

Thus, the advertising literature is a deliberate misrepresentation of the facts. It is, therefore, recommended that the preparation be refused recognition, and that this report be published.

The recommendations of the subcommittee were adopted by the Council and in accordance therewith the above report is published.

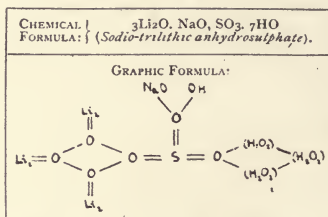
W. A. PUCKNER, Secretary.

In publishing the above report, the Council is presenting to the medical profession another object lesson, and one that illustrates how easily our profession is being humbugged. There are several things that we may learn from the report on this nostrum, but at this time we will take up only one phase of the lesson. Many of the scientific chemical compounds and derivatives given us by the German chemists have been distinct advancements and have proved to be valuable additions to our therapeutic agents; further, they were received with so much favor by physicians that they have been profitable for those who made them. It is not strange, therefore, that imitators should appear. One of the first was our old friend, Antikamnia (which was introduced as a "new synthetic" compound). This was followed by Ammonol, Phenalgin, Salacatin, and a host of others having acetanilid as their principal ingredient.

But there are hundreds of other so-called "new chemical" compounds among the "ethical" proprietaries on the market aside from the acetanilid mixtures. These wonderful compounds, by the mysterious union of their ingredients, possess

therapeutic properties different from, or more powerful for good than the drugs from which they are made. At least, this is what we are told, and this is what many believe or they would not sell so well.

There is another factor worth noticing connected with this subject: When to the claim that the mixture is a "chemical compound" is added a complex chemical formula, it prevents the impertinent question, "What is it?" or isn't the "formula" there, and is not the information given without the asking? Most of us have been so overcome by the display of the chemical knowledge of the nostrum maker that we have been afraid to expose our ignorance by asking for information or explanation. And thus the promoter avoids perplexing questions, which, if answered truthfully, would spell bankruptcy.



This picturesque "graphic formula" for Thialion appears with many of the advertisements. To most of us it looks formidable, wonderfully and deeply scientific and non-understandable; to a chemist it looks absurd.

To a chemist the formula of Thialion furnished by the Vass Chemical Company signifies nothing. To a physician who possesses but little knowledge of chemistry, it will seem impressive, and he may absorb the idea that it stands for a preparation that is the result of exhaustive scientific research. To the chemist, this formula will appear as a jumble of symbols and numbers that mean nothing.

It is not worth while to call attention to the simplicity of this simple mixture of ordinary salts, for it is too self-evident. As to the remarkable therapeutic qualities of Thialion, the reader is referred to that ably edited "scientific" periodical, the *Uric Acid Monthly*, and to the mass of "literature" relating to this wonderful remedy.

While there is a ridiculous side to this business, there is also a serious one. Those who have been making money out of us undoubtedly laugh in their sleeves at our gullibility, but to us as members of a presumably learned and intelligent profession, it is not a laughing matter. The whole nostrum business is a shame and a disgrace.—(Modified from *The Journal A. M. A.*, Nov. 3, 1906.)

UNICORN ROOT, WILD YAM AND WILD INDIGO**Report of the Council on Pharmacy and Chemistry**

The Council has voted that recognition be refused to the following: Unicorn Root (*Aletris farinosa*), Wild Yam (*Dioscorea villosa*), and Wild Indigo (*Baptisia tinctoria*) and has authorized the publication of the following statements.

W. A. PUCKNER, Secretary.

Unicorn Root—*Aletris Farinosa*

Unicorn Root (*Aletris farinosa*) contains a bitter principle and starch. Remarkable powers as a uterine tonic have been ascribed to it but have not been realized by reliable observers, the drug being practically valueless in these conditions. It enters into the composition of a number of nostrums. As a bitter it is superfluous and it should not be included among non-official drugs.

Wild Yam—*Dioscorea Villosa*

Wild Yam (*Dioscorea villosa*) has been little used in medicine. It contains a saponin and an acrid resin, and is said to possess expectorant, diaphoretic and—in large doses—emetic properties. It has been recommended as a remedy in biliary colic and in muscular rheumatism. Its value in such conditions has not been verified to an extent entitling it to consideration as a useful remedy.

Wild Indigo—*Baptisia Tinctoria*

Wild Indigo (*Baptisia tinctoria*) has been in use—chiefly by the eclectics—for about three-quarters of a century, but there is no satisfactory evidence that it has any therapeutic value. The following text-books on pharmacology do not even mention wild indigo: Cushman, Brunton, Dixon, Binz, Sollmann. It is not official in the United States or other leading pharmacopœias.

A preparation of wild indigo is advertised with extravagant claims for its therapeutic action, but these claims are not supported by any substantial evidence. Other virtues ascribed to wild indigo are its properties as a cardiac and hepatic stimulant and its value in sepsis, particularly in typhoid fever. It actually has emetic and cathartic properties, but even these are inferior to those possessed by many other drugs.

It is very evident that a drug possessing the extraordinary merits that have been claimed for wild indigo would not have remained unnoticed by the leading authorities on pharmacology and therapeutics, especially after its prolonged use in medicine. Owing, therefore, to the lack of substantial evidence of its usefulness, baptisia is not considered as of sufficient importance to warrant its inclusion in the list of non-official drugs. It is probably entirely superfluous.—(From *The Journal A. M. A.*, Jan. 22, 1910.)

PROPRIETARY VANADIUM PREPARATIONS

Report of Council on Pharmacy and Chemistry on Products of
Vanadium Chemical Co.: Vanadiol, Vanadioseptol,
Phospho-Vanadiol, Vanadoforme, Etc.

Vanadiol and preparations thereof, the products of the Vanadium Chemical Company, were submitted to the Council. After thorough investigation it was concluded that the company has not, and never has had, any reliable evidence for the therapeutic claims it has presented to the medical profession regarding these products. Accordingly the Council voted that the several products under consideration be not accepted for inclusion with New and Nonofficial Remedies. The findings of the Council having been submitted to the Vanadium Chemical Company and its reply considered, the Council authorized publication of the report which appears below.

W. A. PUCKNER, Secretary.

The Vanadium Chemical Company, Pittsburgh, Pa., submitted to the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies the following products: Vanadiol, Vanadioseptol, Phospho-Vanadiol, Vanadium Solution for Intravenous and Hypodermic Use and Vanadoforme. At the same time, the company submitted statements and "literature" regarding the composition and therapeutic value of these products. The committee to which the matter was referred, after carefully considering both the matter presented and certain modifications in the advertising matter to which the company consented, reported that the evidence, especially that relating to the therapeutic value of the preparations, was insufficient to warrant the acceptance of the articles. Since the validity of therapeutic claims can be determined to a certain extent by experimental investigation, the Council decided to postpone final action until sufficient dependable evidence as to the therapeutic value had been submitted.

Accordingly, a series of questions was sent to the Vanadium Chemical Company for the purpose of learning on what pharmacologic evidence the therapeutic claims were based. After waiting several months, the information requested not being furnished, the Council took final action on the products. This action was based both on the evidence originally submitted and on the advertising matter being sent out by the company at the time.

Briefly, Vanadiol is said to contain a compound of vanadium with oxygen and chlorin, which gives up its oxygen to readily oxidizable substances, such as the blood. In addition to this compound it contains an oxidizing agent (sodium chlorate) which is said to serve as a source of oxygen, so that, according to the theory of the promoters, Vanadiol acts in the animal system as an oxygen-carrier.

The following is quoted from an advertising circular:

"Most thorough and conclusive physiological tests were made on guinea-pigs and other animals, which established undoubted evidence as to the truth of this theory.

"INFLUENCE

"Under the influence of Vanadiol and the other derivatives, the appetite is increased, there is greater ability to peptonize ingested proteid material, and, through the improvement in the assimilative powers and the checking of abnormal fermentations, leads to an increase in weight. A greater excretion of urea follows their use. Phagocytic action is promoted by an increase in the leucocytes. All phases of the elimination of waste materials are favored by the positive increase in the number of red blood corpuscles and the percentage of hemoglobin, hematogenesis being thereby rendered more perfect. The beneficent effect of nascent (active) oxygen, upon the red corpuscles and upon tissue cells of low vitality are matters of common knowledge. The results obtained from the vanadium derivatives are not drug effects, but are due to improved metabolism, which in turn is due to the removal of microbial toxins, and the general stimulation of cell activity.

"In a tubercular organism, the action of Vanadiol is two-fold. First, it acts as an antiseptic and antitoxin, combating the Koch bacilli and neutralizing their poison. Second, as a reconstituent of the economy, to which it furnishes nascent oxygen, fortifying the defenseless cells by the very element that is necessary to make them healthy and resistant."

"In Anemia and Chlorosis, the blood cells lack oxygen, and in Neurasthenia the nerve cells are deficient. Vanadiol brings both blood and nerve cells from a condition of weakness and decay into vital energy, by furnishing them with active oxygen in a manner that had not been possible by any other medicine."

"Vanadiol accelerates the work of digestion by producing HCl in small doses; it does not hinder the peptonization of albuminoids as do beta-naphthol, salicylic acid, boric acid, etc., when used as a stomachal antiseptic, but on the contrary it favors, by hydrochloric acid, the transformation of albuminoids into peptone without the assistance of pepsin. Thus, Vanadiol, when given to consumptives, favors the digestion of large amounts of proteid materials and causes oxidation of toxins of the stomach. The stomachic action is reflected in other parts of the organism by the stimulation of the chief functions; the pulse becomes stronger and muscular strength increases; and, last, but of greatest importance, is the tremendous increase which will be noted in the hemoglobin and the red cell count."

"Phospho-Vanadiol, a combination of Vanadiol with an easily assimilable organic phosphorus, is an active accelerator of general nutrition with a special action on the nervous system."

Such remarkable statements as these are past credence, certainly, unless they are supported by scientific evidence. And evidence, either in support or in contradiction of the claims made, could be obtained; for many of these actions, at least, are capable of proof by animal experimentation. The Vanadium Chemical Company was asked to furnish such proof but failed to do so. The inference is plain! The committee has concluded that the company has not, and never has had, any reliable evidence on which to base the therapeutic claims it has presented to the medical profession.

Here another fact should be noted. It is the connection shown in THE JOURNAL, June 22, 1912, of the general manager

of the Vanadium Chemical Company, F. M. Turner, with a fraudulent obesity cure concern, the Dr. Turner Company of Syracuse, N. Y.

It seems, moreover, by all the evidence available, that F. M. Turner is not authorized to use the title M.D.; yet, under this title his name appeared on cards representing the Vanadium Chemical Company and under this title, also, he published an article in a medical journal recommending to the medical profession the use of Vanadiol. Later this article was distributed as an advertising circular by the Vanadium Chemical Company. Turner's connection with the Dr. Turner Company is known and acknowledged by the Vanadium Chemical Company, yet it still retains him as general manager!

While there is not necessarily any direct relation between the personnel of a proprietary manufacturing company and the value of that company's product, it is natural that the medical profession should view with distrust any concern managed by one who has previously been connected with such a fraud as the Turner obesity cure.

The committee therefore recommends that the preparations of the Vanadium Chemical Company be refused recognition, and that this report be authorized for publication. (*From The Journal A. M. A., Jan. 18, 1913.*)

VIN MARIANI

Report by Council on Pharmacy and Chemistry—With Comments Thereon

This preparation was assigned to a subcommittee of the Council and the following is an abstract of the report of the committee:

Samples of Vin Mariani and of the literature distributed by the manufacturers were examined.

It appears that the beverage or medicine known as "Vin Mariani" is a preparation of red wine, apparently imported from Bordeaux, and fortified, in this country, by an alcoholic preparation of coca leaves or other parts of the coca plant.

The committee considered first, the character of the red wine as imported. A sample received from the port of New York, March 10, 1905, from Henry Clausel & Co., Bordeaux, and consigned to Mariani & Co., on analysis was found to have the following composition:

Specific gravity	0.9959
Alcohol by volume.....per cent.	10.99
Extract	2.279
Volatile acids	0.0914
Ash	0.2801
Reducing sugar	trace.
Pol. direct	degrees —0.8
Pol. invert	degrees —0.7
K.So.	Mg. per liter 0.092

A sample of Vin Mariani, as bought in the open market in an original package, has also been analyzed and found to have the following composition:

Specific gravity	1.0125
Alcohol by volume per cent.	16.15
Extract per cent.	8.602
Ash per cent.	0.277
Glycerin per cent.	0.444
Volatile acid per cent.	0.0747
Tartaric acid per cent.	0.2400
Alkaloids (coca bases)..... per cent.	0.0250
Cane sugar per cent.	2.35
Reducing sugar per cent.	3.38

The increased alcoholic strength of Vin Mariani over the Bordeaux wine, from which it is made, as shown by this analysis, doubtless comes from the alcohol extract containing the coca bases, as already stated. Approximately 6 per cent. of sugar is also added to the wine. Judging from the analysis, therefore, Vin Mariani corresponds to a mixture of an alcoholic preparation of coca leaves and ordinary Bordeaux red wine, with the addition of about 6 per cent. of sugar.

Vin Mariani conflicts with Rule 5, which requires that "No article will be admitted or retained, concerning which the manufacturer or his agents make misleading statements as to geographical source, raw material from which made, or method of collection, or preparation," by stating in the advertising literature that: "The United States government, under the Pure Food Law of March 3, 1903, further emphasizes all previous analyses of Vin Mariani by admitting Mariani's wine as absolutely pure and unadulterated."

Whatever may have been the intent of the above statement, its effect is to deceive. The conjunction of the terms "Vin Mariani" and "Mariani's wine" can only be construed as meaning the same thing. Inasmuch as it does not appear that Vin Mariani is imported into this country, it would not have been possible for the United States government to inspect it, and as to the wine obtained from Henry Clausel & Co., from Bordeaux, it is not in any sense Mariani's wine except that of ownership. It is the opinion of the committee that this phrase can only result in deception and the construction of the language strongly favors the supposition that it is intentionally meant to deceive.

This false claim is practically repeated in the other pamphlets published by the Vin Mariani Company, although not always in the same words.

This preparation also conflicts with Rule 6, which states that "No article will be admitted or retained of which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to therapeutic value," in that the firm's letter-heads have printed on them the following:

"Vin Mariani purifies the blood stream, strengthens the circulation, stimulates muscular fiber and nerve tissue, is a respiratory stimulant, strengthens the

heart muscles, and is an emergency food in the absence of all other nutriment. Successfully employed as an adjuvant in anemia, debility, diseases of the chest, nervous troubles, muscular or mental overstrain, neurasthenia, and allied conditions, and in certain cases of protracted convalescence."

The committee believes that Vin Mariani is intended as a beverage rather than as a medicine.

The report concludes:

"The committee recommends, therefore, that Vin Mariani be refused recognition and that this report be published in full or in part."

In accordance with this recommendation the above extract of the report is herewith published.

W. A. PUCKNER, Secretary.

VIN MARIANI MADE IN THIS COUNTRY

According to the above report, Vin Mariani as imported is simply an ordinary cheap French wine, the preparation sold in this country as Vin Mariani being compounded in this country. Yet the advertising literature, the label on the bottle, etc., state directly or indirectly that it is a French preparation. Until recently—presumably until the vendors realized that the truth regarding this point would come out—the advertisements in medical journals contained an analysis made by a chemist in Paris. The shape of the bottle, the character of the printed matter accompanying the bottle, etc., are evidently intended to convey the impression that it is imported. So far, then, as this point is concerned, Vin Mariani is sold under gross misrepresentations and is a fraud.

ADVERTISED TO THE PUBLIC

Vin Mariani was at one time advertised to the public in this country, but, so far as we know, it is not at the present time; at least, not directly. Yet it is most effectively advertised to the public indirectly, and this with little expense to the promoters, the cost of the circular around the bottle being the only expense—doctors who prescribe it do the rest. If those who are in the habit of prescribing Vin Mariani will examine the advertising that goes into the hands of their patients they will realize how true it is that our profession is responsible for much of the "patent-medicine" taking. Few laymen could withstand the temptation to buy the stuff for any ailment that comes along when they read in the circular that this "medicine," which their doctor evidently thinks is a good thing, is so highly recommended, for all the ills that befall us mortals, by the Pope of Rome, the Czar and the Czarina of Russia, the Queen of England, the Shah of Persia, the King of Norway and Sweden, the Queen of Portugal, the Queen of Saxony, the Crown Prince of Cambodia, Ferdinand of Bulgaria, and by a whole list of ambassadors, generals, politicians, musicians, actresses, etc. The testimonials of these

great men and women are enough to convince the most skeptical that this remarkable medicine will do everything but raise the dead—and under favorable circumstances accomplish even this. And still more—it will win battles! Witness this from the governor-general of Madagascar: "We were refreshed by Vin Mariani, and before morning carried the stronghold." Alexandre Dumas and Émile Zola are credited with calling it "the elixir of life." One very strange thing about the testimonials in the circular used in this country is that all are written by foreigners. But Americans (President McKinley—think of it—among others) are honored by having their testimonials quoted in the circulars used on the other side of the Atlantic. Why? Is it possible that the testimonials are fakes?

VIN MARIANI NOT A COCAINE PREPARATION

Regarding the Illinois State Law regulating the sale of Cocaine, it is a pleasure again to have verified in official form, that Vin Mariani is not a cocaine preparation and that the law in no way covers or applies to it. This decision recently rendered is based upon analyses made by Chemists of high professional standing, at request of the Illinois authorities, and confirmed by investigations of the Ohio Pure Food Commission, and the Board of Health at Cleveland.

GUARANTEED UNDER THE FOOD AND DRUGS ACT, JUNE 30, 1906; SERIAL NO. 440

VIN MARIANI

[MARIANI WINE]

A COMPOUND OF FRENCH BORDEAUX WINE WITH A SPECIAL PREPARATION OF BLENDED VARIETIES OF ERYTHROXYLON COCA SEVENTEEN PER CENT. ALCOHOL by Volume. Each Ounce represents ONE-TENTH OF ONE GRAM OF COCAINE.

Vin Mariani is prepared and bottled at our New York Laboratory

MARIANI AND COMPANY

PARIS, FRANCE: 41 Boulevard Haussmann

NEW YORK: 52

VIN MARIANI IS MADE AT OUR LABORATORY IN NEW YORK CITY. IT IS FREE OF ALL ADULTERANTS. IT IS OF THE HIGHEST QUALITY. IT IS THE ONLY ONE OF ITS KIND.

Advertisements of Vin Mariani before and after national Food and Drugs Act went into effect.

AN ETHICAL CURE-ALL

Here are a few of the conditions that the circular says Vin Mariani is good for: "Anemia, winter cough, debility, vocal weakness, la grippe, continued fevers, bronchitis, nervous troubles, muscular weakness, diseases of the aged, malaria, melancholia, overwork, neurasthenia, impotence, malnutrition, depression, heart troubles, wasting diseases, mental overstrain, and in certain cases of protracted convalescence."

The following quotations are taken from blotters—circulated in this country—which are evidently intended for the laity, as well as for physicians:

"Vin Mariani creates and sustains vigor and energy. Guards against wasting diseases. When everything else has failed try it to prove merits."

"Lung, Throat and Stomach Troubles benefited by Vin Mariani; this Ideal French Tonic strengthens entire system of Body, Brain and Nerves."

"Most Efficacious, Most Agreeable, Unequaled by anything in Fortifying, Strengthening, Refreshing."

WHY BLAME THE LAYMAN FOR USING NOSTRUMS?

Can we blame the layman for using peruna, wine of cardui, etc., simply because they are advertised, when there are physicians who, for the same reason, prescribe concoctions that are just as quackish and just as useless? And can editors of medical journals consistently find fault with newspapers for carrying advertisements of fraudulent "patent medicines" when they themselves admit to their pages advertisements of nostrums that are no less fraudulent and of no more value?

MEMBER OF PROPRIETARY ASSOCIATION

One word more: There is an organization known as the Proprietary Association of America, but it is usually referred to in common parlance as the "patent-medicine" men's association. It will be remembered that last year we printed a list of the members of this body, among which was the Vin Mariani Company. It will be remembered also that in the list were the names of certain firms who were supplying medicines to physicians, but practically all these resigned from membership and their resignations were published by us. We have not had the pleasure of publishing the resignation of the Vin Mariani Company. On the contrary, we note that at the last annual meeting of the "patent-medicine" men's association this firm was still an active member, Mr. A. L. Jaros, who stands for the Mariani Company in this country, being one of those registered at the meeting.—(*From The Journal A. M. A., Nov. 26, 1906.*)

WATERBURY'S METABOLIZED COD-LIVER OIL COMPOUND*

Report of the Council on Pharmacy and Chemistry and Laboratory Contribution on Which It Is Based

The following report has been adopted by the Council and its publication directed. W. A. PUCKNER, Secretary.

To the Council:—Your committee on pharmacology has read with interest the contribution from the Association's laboratory on Waterbury's Metabolized Cod-Liver Oil Compound. The report shows that misleading and false statements are made in regard to the composition of the product and also that exaggerated and unwarranted claims are made for its therapeutic value. In view of the attempt of the Waterbury Chemical Co. to create a false impression in regard to the thera-

* For article on Hagee's Cordial of Cod Liver Oil, see Index.

peutic value of the composition of its product, it is recommended that the following report be adopted and published:

The Council believes that there is a preponderance of evidence to indicate that whatever therapeutic value cod-liver oil has, that value depends chiefly, if not entirely, on its fat (oil). In the opinion of the Council, the word cod-liver oil should not be used in connection with any preparation unless it consists to a large extent (25 per cent. or more) of cod-liver oil. Since Waterbury's Metabolized Cod-Liver Oil Compound contains no appreciable quantity of cod-liver oil, the name is incorrect and misleading, and as a cod-liver oil preparation it is believed to be wholly valueless. The Council has previously voted that Waterbury's Cod-Liver Oil Compound be refused recognition because of conflict with Rules 1 and 6. —(*From The Journal A. M. A., Oct. 9, 1909.*)

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

Waterbury's Metabolized Cod-Liver Oil Compound

W. A. PUCKNER AND L. E. WARREN

A full page advertisement of Waterbury's Metabolized Cod-Liver Oil Compound appeared in the *Iowa Medical Journal*, March 15, 1909, in the form of a letter purporting to give the results of an analysis of the product made for the firm by a Chicago chemist. In this letter-advertisement the chemist states at the outset that the results of his examination "are somewhat at variance with the statements made in THE JOURNAL." These statements he quotes as follows:

1. It is a clear liquid and no globules of oil are seen under the microscope. It is therefore not an emulsion.
2. It is of acid reaction when mixed with water and remains clear when strongly acidified. Hence it does not contain a soap, and is not a saponification of fat.
3. It mixes with water without precipitation, hence, it can not contain more than traces of a fatty acid.

The chemist admits in his letter to the firm that his analyses verify statements 1 and 3, but regarding statement 2 he says: "I find that your preparation is acid in reaction, but when strongly acidified gives a distinct turbidity within 10 minutes and a voluminous precipitate within 1 hour. This precipitate is shown to consist of fatty acids of cod-liver oil, which are thrown down by the splitting of the soaps, on acidifying either with sulphuric or hydrochloric acid." From these results he states that to him it seems that the "preparation does not deserve the statement that it contains no soap, as there is no question whatever of the presence of cod-liver oil."

While in the letter published in this advertisement the chemist claims to have demonstrated the presence in the product of "saponified cod-liver oil," he omits to mention the quantities of the soap present. In the article that originally appeared in THE JOURNAL (Oct. 13, 1906), in addition to the three para-

graphs quoted by the chemist, the following statements were made:

"By these simple tests a physician is easily able to demonstrate that the preparation does not contain cod-liver oil. It is therefore valueless for the purpose of nutrition for which we give the oil. More careful analysis confirms the results of these tests and shows that it contains no fat or fatty acids (except the merest traces) . . ."

At the time these statements were published in *THE JOURNAL*, the *St. Paul Medical Journal*, October, 1906, contained an advertisement for Waterbury's Metabolized Cod-Liver Oil Compound, which contained this statement:

"The only tasteless preparation on the market which contains Cod-Liver Oil in its entirety. The metabolized product is obtained by the action of digestive ferments on pure Cod-Liver Oil."

In the *Ohio Medical Journal* of Feb. 15, 1907, there appeared in the form of an advertisement what purported to be an analysis of Waterbury's Metabolized Cod Liver Oil Compound by Prof. C. N. Kinney of Drake University. While Professor Kinney made a quantitative analysis of the preparation, the quantities were omitted from the analysis as published. A footnote added by the Waterbury Chemical Company called attention to this fact and closed as follows:

"Any physician who is not satisfied with the analysis we will be only too glad to furnish the complete analysis by our representatives."

If this weirdly constructed sentence meant anything, it meant that the complete analysis would be furnished on request. Such requests to the company, however, from various sources failed to elicit the information required nor was the "complete analysis" forthcoming. The inference to be drawn is fairly plain.

In a circular accompanying the product as sold at present, this statement occurs:

WATERBURY'S
METABOLIZED COD LIVER OIL COMPOUND
WITH CREOSOTE AND GUAIACOL OR PLAIN

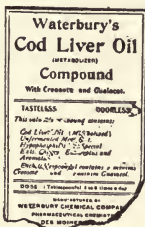
DOES CONTAIN COD LIVER OIL
DOES ALLAY FERMENTATION
DOES AID DIGESTION
DOES ASSIST ASSIMILATION
BUT DOES NOT DISTURB THE STOMACH

As previous examinations disclosed only the merest traces of cod-liver oil in the product though claims were made that it "represents cod-liver oil in its entirety," and in view of the fact, too, that present advertisements emphatically declare that cod-liver oil is present in the preparation as now sold, it

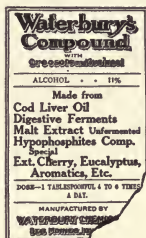
was thought best to examine some of the preparation with especial reference to the quantities of fatty acids from cod-liver oil.

The results of the examination are briefly as follows: The total quantity of acids isolated amounted to about 0.3 per cent., and of this amount about two-thirds was *salicylic acid*. Thus it appears from the examination of the specimens bought on the open market that the preparation contains at most but 0.1 per cent. of the fatty acids from cod-liver oil, a totally insignificant quantity.

Notwithstanding the protestations by the manufacturers, in the form of published analyses and circulars, it is seen that the statements published in *THE JOURNAL*, Oct. 13, 1906, p. 1207, are essentially substantiated; it is further evident that the product does not deserve to be designated as a cod-liver oil preparation. To obtain a medicinal dose of cod-liver oil the



OLD LABEL



NEW LABEL

It is interesting in this connection to note that this product is no longer being sold under the name "Metabolized Cod Liver Oil Compound." See the illustrations of the old and new labels.

patient would be compelled to swallow the contents of a bottle of this mixture, and as, the product contains 11 per cent. alcohol the patient who did so would probably experience a degree of exhalation not referable to cod-liver oil.—(*From The Journal A. M. A.*, Oct. 9, 1909.)

Declared Misbranded

This product of the Waterbury Chemical Company, of Des Moines, Iowa, was exposed in *THE JOURNAL* of the American Medical Association, October 9, 1909. In May, 1910, the United States Government issued a notice of judgment in which it was declared that Waterbury's Metabolized Cod Liver Oil Compound was misbranded. The court rendered its decree of condemnation and forfeiture.—[*Notice of Judgment*, No. 303.]

PART II.

CONTRIBUTIONS FROM THE CHEMICAL LABORATORY

ANUSOL HEMORRHOIDAL SUPPOSITORIES

W. A. Puckner and L. E. Warren

An abstract of an article concerning "anusol suppositories" was published in THE JOURNAL, Jan. 23, 1909. This gave the results of an analysis by a foreign chemist, J. F. Suyver, which were to the effect that "anusol suppositories" contained no "anusol." Schering & Glatz, the American agents for "anusol" suppositories, took exceptions to the abstract, asked that THE JOURNAL retract, and submitted the findings of a chemist in support of their claim that the suppositories do contain "anusol." To determine the composition of "anusol hemorrhoidal suppositories" as they are found on the American market, trade packages were purchased (April 6, 1909) and submitted to examination¹ in the Association's laboratory.

According to the claims of the manufacturers, 12 suppositories contain:

"Anusol	7.5 grams
"Zinc oxid	6.0 grams
"Balsam Peruv.	1.5 grams
"Ol. theobrom.	19.0 grams
"Ungt. cerat.	2.5 grams"

Calculated to percentages the formula reads:

Anusol	20.54 per cent.
Zinc oxid	16.44 per cent.
Balsam Peruv.	4.11 per cent.
Ol. theobrom.	52.06 per cent.
Ungt. cerat.	6.85 per cent.

When this product was submitted to the Council some time ago, Schering & Glatz stated that, according to the manufacturer, "anusol" is the "iodo resorcin sulphonate of bismuth, having the following rational formula: $[C_6H_4ISO_2O(OH)_2]_3Bi$. In the meta-dioxybenzol $C_6H_4(OH)_2$, the resorcin, one H has been replaced by one I, and for another H the sulfonic-acid group SO_2-OH has been substituted, so that meta-dioxybenzol is transformed into $C_6H_2ISO_2-OH(OH)_2$. In the sulfonic acid the H of OH is replaced by Bi and, as Bi is trivalent the above rational formula results."

1. Details of the quantitative analysis of "Anusol-Hemorrhoidal Suppositories" appear in the annual report for 1909 of the Chemical Laboratory of the American Medical Association.

According to this formula "anuso!" should contain:

Iodin	32.99 per cent.
Sulphur	8.34 per cent.
Blsmuth	18.07 per cent.

And the "anuso!" suppositories should contain:

Iodin	6.77 per cent.
Sulphur	1.71 per cent.
Blsmuth	3.71 per cent.

Examination showed that the suppositories contain about 0.08 per cent. iodine, or 1.2 per cent. of the amount claimed; 0.28 per cent. sulphur, or 16.3 per cent. of what is claimed; 0.71 per cent. bismuth, or 19 per cent. of what is claimed; and zinc equivalent to 16.5 per cent. zinc oxid; or about 100 per cent. of claim.

From the standpoint of the iodine content alone, assuming that all of the iodine found is present in the form of "anuso!," the results of the examination of the product (as found on the American market) verifies, for all practical purposes, Suyver's statement that "anuso! suppositories contain no anuso!," for the quantity of iodine present is so minute (about 1/82 of that required by the formula) as to be unworthy of serious consideration. The presence of sulphid in appreciable amounts was demonstrated showing that the sulphur is present, at least in part, in the form of sulphid and not as sulphonate as is claimed. In a measure, too, this is in accord with the findings of Suyver, who concluded that, in the product which he examined, the bismuth was present in the form of sulphid. The proportions of sulphur and of bismuth (respectively about 1/6 and 1/5 of the required amounts) indicate still further that the product is not all that it is claimed to be.

A specimen submitted by Schering & Glatz to the Council two years ago contained 0.09 per cent. iodine, or 1.3 per cent. of the amount claimed; 0.23 per cent. sulphur, or 13.4 per cent. of the claimed amount; and 0.52 per cent. bismuth, or 14 per cent. of what is claimed by the formula. Since the above determinations were made another specimen of Anuso! Hemorrhoidal Suppositories was received from Schering & Glatz, July 16, 1909. This sample was found to contain about: 0.075 per cent. iodine, or 1.1 per cent. of the amount required by the formula; 0.265 per cent. of sulphur, or 15.5 per cent. of the requirement and 0.88 per cent. bismuth, or 23.7 per cent. of the required amount. It will thus be seen that the composition of the oldest specimen and also that of the specimen recently sent, corresponds in a general way to that of the one first examined.

Whether judgment be based on the determination of the bismuth, the sulphur or the iodine, the results just given clearly show that the claims made concerning the composition of "Anuso! Hemorrhoidal Suppositories" are not substantiated by the facts.—(*From The Journal A. M. A., Oct. 2, 1909.*)

AROMATIC DIGESTIVE TABLETS

W. A. Puckner and L. E. Warren

It has been amply demonstrated¹ that pepsin and pancreatin, when in solution, mutually destroy each other; if the solution be acid, the pepsin destroys the pancreatin; if alkaline, the pancreatin destroys the pepsin. By using the characteristic effect of pepsin on proteids in acid medium and that of pancreatin on proteids and starches in an alkaline solution it can readily be demonstrated that commercial liquid preparations labeled as containing both of these ferments actually contain only one ferment. They are misbranded.

Besides the liquid a goodly number of solid preparations, chiefly tablets, containing pepsin and pancreatin are offered to the profession. Among these are tablets consisting simply of pepsin and pancreatin. Since pepsin and pancreatin interact only when in solution, it is quite possible to prepare tablets which contain these ferments. The use of such tablets is, however, unscientific, since one or the other of the ferments is destroyed when it comes in contact with the fluids of the digestive tract. In addition to simple tablets containing pepsin and pancreatin only there is at present a host of "digestive tablets" on the market. Among these are some which must be classed with the "digestive impossibilities" (Reports of the Council on Pharmacy and Chemistry, 1910, vol. 1, p. 41). The preparations referred to are tablets claimed to contain pepsin, pancreatin, diastase, hydrochloric acid and lactic acid. When it is considered that the United States Pharmacopeia defines hydrochloric acid as "a liquid composed of 31.9 per cent. by weight of absolute hydrochloric acid ($\text{HCl}=36.16$) and 68.1 per cent. of water," i. e., a solution of hydrogen chlorid, a gas, in water, it would at first appear that the incorporation of any appreciable quantity of hydrochloric acid in tablets would be impracticable. Hydrochloric acid, however, possesses to a limited extent the property of combining loosely with protein substances so that it becomes possible to bring about its combination with pepsin and similar substances to form compounds which are relatively stable at ordinary temperatures. Because of the volatility of the free acid and its limited combining power with protein substances (100 gm. boiled beef combine with 2 gm. absolute hydrochloric acid²), the quantity of acid in any tablet can never be large, much less than sufficient to be of any therapeutic value.

A number of firms offer "digestive tablets" for sale having formulas of which the following may be considered typical:

1. U. S. Pharmacopeia, 8th revision, p. 334.

2. Hemmeter, *Diseases of the Stomach*, Edition 3, p. 250.

Sacch. Pepsin.....	4	grains
Pure Pancreatin.....	1	grain
Diastase	$\frac{1}{4}$	grain
Aromatic Powder.....	$\frac{1}{4}$	grain
Lactic Acid.....	$\frac{1}{8}$	grain
Hydrochloric acid.....	$\frac{1}{8}$	grain

Some manufacturers use United States Pharmacopeia pepsin in place of the saccharated article; others do not give the exact quantities of hydrochloric acid which their product is supposed to contain, but make use of the indefinite expression "q. s.," still others state merely that hydrochloric acid is present, but make no claim whatever concerning the quantity.

From purely theoretical considerations it is possible that the tablets referred to might contain appreciable amounts of hydrochloric acid. Since the formulas for some of the tablets furnish no information concerning the content of hydrochloric acid, it seemed worth while to determine the quantity, if any, actually present in some of the tablets on the market. Accordingly a trade package of "digestive aromatic tablets," as put up under the label of each of six American manufacturers, was purchased and submitted to examination in the Association laboratory.

Qualitative tests made on specimens from each brand of tablets demonstrated the absence of uncombined hydrochloric acid in each. Further tests³ showed that hydrochloric acid in protein combination was present essentially in the amounts claimed in three of the specimens. In two of the others hydrochloric acid was entirely absent; in the remaining one only the merest traces of hydrochloric acid could be found.

H. K. MULFORD COMPANY
 "DIGESTIVE AROMATIC"

"Pepsin, Sacch.	4	grains
"Pancreatin	$\frac{1}{2}$	grain
"Diastase	$\frac{1}{16}$	grain
"Acid Lactic.....	$\frac{1}{8}$	grain
"Acid Hydrochloric.....	$\frac{1}{8}$	grain
"Aromatic Powder.....	$\frac{1}{4}$	grain

Dose: 1 or 2 tablets.

In the above formula each tablet is said to contain $\frac{1}{8}$ grain hydrochloric acid. This amount is equivalent to 0.002584 gm. ($\frac{1}{25}$ grain) absolute hydrochloric acid. Analysis demonstrated that each tablet contains about 0.00267 gm. hydrochloric acid (absolute HCl) or essentially the amount claimed. The average dose of diluted hydrochloric acid United States Pharmacopeia is 1 c.c., equivalent to 0.1040 gm. absolute hydrochloric acid. To obtain this quantity from the

3. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

above preparation the patient would be required to swallow more than three dozen of the tablets.

WM. S. MERRELL CHEMICAL COMPANY
"DIGESTIVE AROMATIC, 5 GRAINS"

"Pepsin	80 parts
"Pancreatin	10 parts
"Diastase	1 part
"Acid Lactic	1 part
"Acid Hydrochloric	3 parts
"Aromatic Powder	5 parts

Calculation shows that each tablet should contain about 0.0031 gm. of absolute hydrochloric acid. The analysis indicated that each tablet contains about 0.0030 gm. hydrochloric acid (absolute HCl) in protein combination, or practically the amount claimed. One pharmacopeial dose of hydrochloric acid is contained in 35 of the tablets.

PARKE, DAVIS & COMPANY
"DIGESTIVE AROMATIC"

"Saccharated Pepsin	4 grains
"Pure Pancreatin	1 grain
"Diastase	$\frac{1}{4}$ grain
"Aromatic Powder	$\frac{1}{4}$ grain
"Lactic Acid.	
"Hydrochloric Acid.	

Dose: 1 to 3 tablets.

Chlorid is present in small amounts, but quantitative examination indicated that hydrochloric acid, either free or in protein combination, is absent. An ammonium salt is present in small quantities.

SHARPE & DOHME
"DIGESTIVE AROMATIC"

"Pepsin, Sacch., U. S. P.	4 grains
"Pancreatin, pure	1 grain
"Diastase	$\frac{1}{4}$ grain
"Aromatic Powder	$\frac{1}{4}$ grain
"Lactic Acid	q. s.
"Hydrochloric Acid	q. s.

Small quantities of chlorid are present. Quantitative examination indicated that hydrochloric acid in protein combination is present only in very small amounts, each tablet containing but about 0.00034 gm. of absolute acid, or about 0.34 per cent. of the pharmacopeial dose. Ammonia is absent. Inasmuch as more than 300 of these tablets would be required to furnish a pharmacopeial dose of hydrochloric acid, this firm's interpretation of the expression "q. s." would prove interesting.

TRUAX, GREENE & COMPANY
"SYNERGIA"

"Synergia" is claimed to be composed of "pepsin, pancreatin, veg. diastase, lactic acid, hydrochloric acid and aromatics; dose, 1 to 3 tablets." The specimen contained no hydrochloric acid, either free or in protein combination. A trace of ammonia and small quantities of chlorid were found.

THE FRASER TABLET COMPANY

"Pepsin Sacch.	80 parts
"Pancreatin, Pure.....	10 parts
"Diastase	1 part
"Lactic Acid.....	1 part
"Hydrochloric Acid.....	3 parts
"Aromatic Powder.....	6 parts
Dose: 1 or 2 tablets.	
"Each tablet represents (5) grains of the above mixture."	

According to the formula hydrochloric acid (31.9 per cent. absolute HCl) represents 3 parts in 101 of the preparation from which the tablets are made. Each tablet (containing 5 grains of the mixture) should have 0.00307 gm. absolute hydrochloric acid. Analysis showed that each tablet contains hydrochloric acid in protein combination equivalent to an average of 0.003066 gm. absolute hydrochloric acid, or essentially the amount claimed. It would be necessary to give 34 tablets to administer a pharmacopeial dose of hydrochloric acid.

EDITORIAL NOTE: The above indicates that the use of such tablets is irrational, unscientific and that it should be condemned. The only constituent of these tablets, other than the aromatics, which might possibly be of benefit in stomach troubles, is the pepsin. But even if it be assumed that the diastase and pancreatin could exert their characteristic effects, their aid to digestion (metabolism) would be but slight, because their amounts in the tablets are too small to be of any value.

It is claimed that the tablets contain diastase in amounts varying from 1/20 to 1/4 grain. Assuming the diastase used to be of first-class quality, i. e., capable of converting 200 times its own weight of starch into soluble products, the quantity in one tablet would be capable at the most of digesting but from 10 to 50 grains of starch, an amount equal at the most to but a small spoonful of oatmeal or a very dainty bite of bread. In the same way the quantity of pancreatin is insufficient to be of any material aid in digestion should it in some way escape destruction in the stomach and still retain its full activity when it reaches the alkaline juices of the intestines. One grain of pancreatin of full United States Pharmacopeia strength will digest only 25 grains of starch or the proteids in about 100 c.c. of milk.

Saccharated pepsin, which was formerly official, was required to digest 300 times its own weight of moist egg albumin,

while the pepsin that is now official is required to digest ten times that amount, or 3,000 times its own weight. It is evident, therefore, that the tablets should contain sufficient pepsin to digest appreciable amounts of protein. No intelligent physician would prescribe these tablets simply for the pepsin they contain or are supposed to contain; if he wanted to give pepsin he would prescribe the drug in the simple form.

Clinical experience has shown that in the majority of cases of so-called dyspepsia the stomach contents contain too much rather than too little hydrochloric acid, and wherever there is a sufficiency of acid there is usually no decrease in the secretion of pepsin. In many of such cases, too, digestion is normal, or even more active than normal, but even when it is imperfect there is seldom any lack of pepsin.

Insufficient digestive power is most often due to a deficiency of hydrochloric acid and not to lack of pepsin in the stomach contents. In the tablets under consideration, however, hydrochloric acid is present—if at all—in the most ridiculously minute quantities; quantities that are so small as to preclude any therapeutic effect except that due to the psychic element.

These tablets, with their six or more ingredients, are typical "shotgun prescriptions." Such prescriptions catch the unthinking doctor as well as the self-drugging public, for, while clinical experience and physiologic experiments have demonstrated that the old ideas regarding the value of these digestives and ferments were erroneous, the public and many members of the medical profession still seem to be influenced by the old theories.

In conclusion we must not lay all the blame on the manufacturing firms for supplying these absurd combinations; the physician who prescribes them should assume a large share of it. If the doctors did not use them the manufacturing concerns would soon stop putting them on the market. We hope, however, that those manufacturing concerns that like to be classed as reputable will cease to disgrace their catalogues with what they know to be therapeutic absurdities.—(*From The Journal A. M. A., Aug. 20, 1910.*)

BURNHAM'S SOLUBLE IODIN

W. A. Puckner and A. H. Clark

Burnham's Soluble Iodin, according to the manufacturers, is one of the most noteworthy "discoveries" of the age. The advertisements aim to create an impression that while the product contains iodine, pure and simple, yet by some secret process this element has been so changed as no longer to possess its usual properties. The Burnham Soluble Iodin Company makes such extravagant claims for its product and gives such wide publicity to these claims that it seemed advisable, in the

interests of the profession, to determine the nature of the preparation. Its examination was accordingly taken up in the laboratory of the American Medical Association.

From the analysis, we conclude that Burnham's Soluble Iodin is a solution of iodine in alcohol made miscible with water by the presence of some iodide. Wilbert¹ and other investigators have arrived at practically the same conclusion.

Whatever the secret process, hinted at in the advertisements, by which this preparation is evolved, the fact remains that when one prescribes Burnham's Soluble Iodin, one is prescribing iodine, together with an iodide, the nature of which is hard to determine. The iodide is not present as potassium iodide *ner*, entirely, at least, as hydrogen iodide (hydriodic acid), but this is of slight importance compared with the fact that it is a solution in alcohol of free iodine and an iodide, and therefore is essentially the same as Lugol's solution.

The amount of iodine found corresponds approximately to 3.0 gm. of free iodine and 2.0 gm. of combined iodine in 100 c.c. of the solution. Lugol's solution contains 5.0 gm. free iodine, and 10.0 gm. potassium iodide in 100 c.c.

BURNHAM'S SOLUBLE IODINE TABLETS

Burnham's Soluble Iodin Tablets are a light brown compressed tablet, stamped with the letters B. S. I. in monogram. Each tablet is said to contain 3 minims Burnham's Soluble Iodin.

The average weight of each tablet was found to be 0.3526 gm.; since Burnham's Soluble Iodin was found to have a specific gravity of .8527 and to contain 4.5 per cent. total iodine, the tablets should contain approximately 2.3 per cent. total iodine, about one-half to two-thirds of which, depending on the condition of the "Soluble Iodin" from which they are made, should be free iodine. Instead of this, only 0.317 per cent. free iodine and 1.57 per cent. total iodine was found. Analysis shows that Burnham's Soluble Iodin tablets contain approximately one-fourth the amount of free iodine and approximately two-thirds the amount of total iodine which should be contained therein if, in accordance with the label, each tablet contains 3 minims of Burnham's Soluble Iodin.

COMMENT

The literature put out by the Burnham Soluble Iodin Company is in itself enough to condemn the products it advertises. The much emphasized statement of the company that

"Something had to be done: and Burnham's Soluble Iodin is that which has been done"

fulfills, in its blatant assertiveness, all the requirements of nostrum advertising. The results of the analyses are not, therefore, a surprise.

1. Proc. Am. Pharm. Assn., 1903, II, 409.

Secrecy is just as essential to-day to the successful exploitation of this class of proprietaries as it was before the demand for formulas became so universal. The requirement of publicity is evaded, therefore, in one of two ways: Either a formula is given which is false, or at least meaningless, or else the claim is made that the method of preparing the product is a unique and remarkable secret that is possessed only by the manufacturers. The Burnham Soluble Iodin Company uses the latter device.

Meanwhile, physicians will be perfectly justified in viewing with suspicion all claims based on such conspicuously unscientific premises, more especially so when these claims fail to find substantiation on careful and painstaking analyses. In brief, whenever the physician wishes to administer free iodine, Lugol's solution (*Liquor Iodi Compositus*, U. S. P., *Physician's Manual*, page 84) is an inexpensive and perfectly available preparation. (*From the Journal A. M. A.*, March 28, 1908.)

"HYDROCYANATE OF IRON—TILDEN"

W. A. Puckner and W. S. Hilpert

Among the many inquiries received regarding the composition of secret remedies was one in reference to "Hydrocyanate of Iron" manufactured by The Tilden Company, New Lebanon, N. Y. This preparation is advertised as being "unexcelled as a remedy for epilepsy, hysteria, chorea, neurasthenia, locomotor ataxia, neuralgia, migraine, anemic headaches, and all convulsive or reflex neuroses dependent on impairment of the brain or spinal cord." It is also said to be "valuable in uterine reflex neuroses due to congestion; in amenorrhea due to anemia and chlorosis and suppressed menstruation."

The term "hydrocyanate of iron" is an unfamiliar one and is not found in any available reference work on chemistry. Thinking that the term might have been loosely applied to ferrocyanid of iron, or Prussian blue (a compound once suggested for epilepsy, but long ago considered useless), the correspondent wrote to the manufacturers asking if such were the case. The Tilden Company answered:

"... our preparation Hydrocyanate of Iron is not Prussian blue in any sense of the word. Prussian blue has no curative properties as applied to all forms of epilepsy. Prussian blue is Ferrocyanid of Iron while our preparation is Hydrocyanate of Iron."

The only statements in the Tilden Company's advertising matter, regarding the composition of hydrocyanate of iron are the following:

"Hydrocyanate of Iron (Tilden's) is a correct and scientific combination of well known principles."

"Hydrocyanate of Iron (Tilden's) combines well known properties of ferruginous salts with the sedative action of Hydrocyanic acid."

The last statement would lead one to expect the presence of available iron and cyanogen ions. In fact, the inference to be drawn from all the company's "literature" is that "hydrocyanate of iron" is a definite chemical compound in the same sense as is ferrocyanid of iron, and that inference is still further borne out in the letter to our correspondent. This being the case, the Tilden Company was again written to and asked for the chemical formula of "hydrocyanate of iron," with the following result:

"Replying to your inquiry regarding the formula of Hydrocyanate of Iron we beg to state the composition of this preparation is a trade secret and we therefore do not care to furnish the desired information."

This reply verified the opinion already formed that "hydrocyanate of iron" is a secret preparation. Its analysis was then taken up in the Association's laboratory.

EXAMINATION OF THE TABLETS

The product appears on the market in cartons said to contain one ounce of one-grain tablets. On the cartons, in addition to the name of the preparation and the name and address of the manufacturers, are the names of diseases for which it is recommended. The tablets, in the specimens analyzed, were dark blue, rather hard and slightly bitter in taste and had an average weight of 0.1382 gm., or about 2 grains. They were found to be practically insoluble in water and dilute mineral acids; aqueous oxalic acid solution partially dissolved them, yielding a blue solution. Boiling with alkali hydroxid solution decomposed the tablets, yielding iron in an insoluble form and a solution of alkali ferrocyanid, as demonstrated by the appearance of a deep blue precipitate on the addition of ferric chlorid solution. The portion insoluble in alkali when boiled with hydrochloric acid yielded a solution containing iron, approximately equivalent to 50 per cent. Prussian blue. These properties are all characteristic of Prussian blue and, taken together, identify Prussian blue as a constituent of "hydrocyanate of iron (Tilden.)" The insoluble residue from the iron determination possessed the properties and constituents of talc and constituted practically one-half of the tablets. Extraction of the tablets with chloroform or ether in the presence of ammonium hydroxid yielded a small amount of organic material which contained bodies having the properties of, and responding to tests for, quinin or cinchona alkaloids and caffeine. The presence of a salicylate was also indicated.¹

1. Details of the quantitative analysis of "Hydrocyanate of Iron—Tilden" appear in the annual report for 1909 of the Chemical Laboratory of the American Medical Association.

From the analysis it is concluded that "hydrocyanate of iron (Tilden)" is essentially a mixture of approximately equal parts of talc and Prussian blue, containing traces of organic matter having the general properties of alkaloids.

COMMENT: When a firm exploits an abandoned remedy for so hopeless a disease as epilepsy under a name not known to chemistry and with a false representation of its pharmacologic qualities, such action may rightly be assumed to show ignorance or worse. "Hydrocyanate of iron," if it means anything, means the cyanid of iron, but the preparation put out under that name is, according to our chemists, not cyanid of iron, but the ferrocyanid of iron commonly known as Prussian blue. This substance has been tried for epilepsy and abandoned. Yet the firm recommends it as a "peerless remedy" for this disease:

"The Tilden Company holds the key to the situation in the treatment of epilepsy. We have the remedy that does the work."

Not that epilepsy is the only disease for which this hypothetical chemical compound may be prescribed. Torticollis has been "successfully treated with hydrocyanate of iron." In chorea, we are told "a richer and better blood supply" should be furnished the nervous and vascular system and "the irritation of the motor centers" must be allayed.

"Hydrocyanate of iron serves admirably to accomplish both of these purposes. It carries the hemoglobin to the blood in its most easily assimilable form and its hydrocyanic acid possesses remarkable sedative powers"

It is not possible for it to have any value in anemia because of its insolubility, yet we are told:

"In conditions marked by poverty of the blood producing anemia or chlorosis, reacting on the nervous system and calling for a chalybeate, hydrocyanate of iron (Tilden's) takes a front rank among the remedies of this class, combining as it does the blood enriching qualities of ferrum with the sedative action of hydrocyanic acid."

As Prussian blue yields no appreciable quantity of hydrocyanic acid under the conditions existing in the animal organism, "the sedative action of hydrocyanic acid" must be as hypothetical as the chalybeate properties attributed to it.

It is strange that a manufacturer, in introducing a new chemical compound, should have to assure his customers that it "contains no opium or alkaloid, of that drug, cocain, chloral hydrate, conium or any of the bromids." Imagine a firm putting, let us say, potassium iodid—a definite chemical compound—on the market and solemnly guaranteeing that it contained no cocain or chloral hydrate!

Would the Tilden Company of twenty-five years ago have served such mental pabulum in its advertising matter?

One would think that the dictates of common humanity would protect the unfortunate epileptic from the machinations

of the nostrum maker, especially from the exploitation of a remedy that has been tried and found wanting. A nostrum, however, merely has to measure up to one standard: Will it pay? Meeting this requirement nothing else matters.—(*From The Journal A. M. A., June 19, 1909.*)

HYMOSA

W. A. Puckner and W. S. Hilpert

Frequent requests for information regarding the composition of hymosa, manufactured by the Walker Pharmacal Co., St. Louis, and a perusal of the extensive and nostrum-like advertising the product is receiving, made a chemical examination of this preparation seem desirable. If the label is to be believed, hymosa has been of use in "acute and chronic muscular and articular rheumatism, gout, sciatica, lumbago, pleurodynia and neuralgia, whether due to uric acid diathesis or not . . ."

The composition of hymosa as given by the proprietors is set forth in the following statement:

" . . . Hymosa, in which the remedies *Frangula*, *Actea Spicata*, *Stellaria Media*, *Franciscea Uniflora*, *Rhus Toxicodendron*, *Passiflora Incarnata*, *Phytolacca Decandra* and *Echinacea Angustifolia* are combined in the proportions which experience has shown will obtain the quickest and best results without any of the stomach and heart complications so often following the administration of salicylic acid."

"Contains no Salicylic Acid."

Thus the explicit statement is made that hymosa contains certain vegetable drugs (most of them obsolete and valueless) and that it does not contain salicylic acid. By inference the claim repeatedly is made that the nostrum does not contain any salicylates.

" . . . Hymosa has achieved most remarkable results in overcoming rheumatism in cases where salicylates have been tried in vain . . ."

"Salicylic acid was not successful in this case of rheumatism of the stomach."

"Negative results from salicylates—Hymosa cures."

" . . . the salicylates didn't help? Then we must try Hymosa."

Still harping on the undesirability of salicylates and the value of hymosa the advertising pamphlets state:

"Salicylic Acid Replaced. The Use of This Dangerous Agent in Rheumatism Obliterated."

"It seems that the use of the dangerous and ineffective salicylic acid will soon be given up and hymosa take its place."

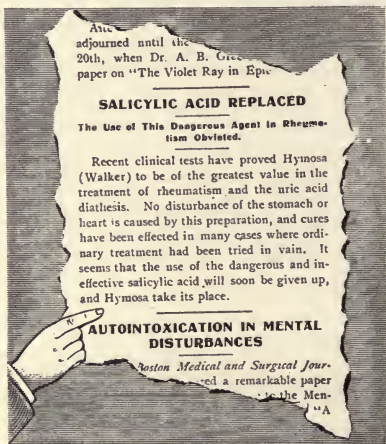
"Former methods of treating rheumatism . . . have been very unsatisfactory . . . because of the heart and stomach difficulties brought on by salicylates of which most rheumatism remedies are composed."

"Could not tolerate the salicylates."

Finally in a letter issued to physicians we are told:

"... you will find Hymosa to possess prompt and positive curative action with the additional advantage of avoiding the heart and stomach complications, which the salicylates too often cause."

It is evident from the above quotations, in which the salicylates are denounced specifically or by implication, and from the label which states that no salicylic acid is present, that the exploiters of the nostrum deliberately intended to give the impression that Hymosa is free from salicylates or salicylic acid and contains only the vegetable or plant drugs enumerated. The very fact that the proprietors make such repeated efforts to give the impression that Hymosa is free from sali-



Reproduction (reduced) of an advertisement of Hymosa. This indicates the attempt made to convey, by implication, the idea that the salicylates are absent from Hymosa.

cylic acid is in itself sufficient to arouse suspicion and hence in the examination particular attention was given to the detection of salicylic acid or salicylates with the following results:

Examination.—Hymosa as purchased on the market is a dark brown liquid with an odor of sassafras and a rather sweetish taste, reacting acid to litmus. Qualitative tests having indicated the presence of salicylate, iodid, sodium, potassium, alcohol and some organic matter, presumably sugars and some plant extractives, these were determined quantitatively.¹

1. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

It was found that a part of the salicylate was present as free salicylic acid and part in a combined form. The sodium determinations indicated that all the salicylate, excepting that in the form of free salicylate acid, was present as sodium salicylate. From the results of the potassium estimations, it was evident that the iodine was present in the form of potassium iodide.

From the results of the analysis it is believed that the preparation has approximately the following composition:

Salicylic Acid	0.32 gm.
Sodium Salicylate	1.15 gm.
Potassium Iodide	0.32 gm.
Sugars and extractives.....	4.60 gm.
Alcohol, U. S. P.....	16.86 c.c.
Water to make.....	100.00 c.c.

These results indicate that Hymosa is essentially a solution containing salicylic acid, sodium salicylate, potassium iodide, alcohol, sugars and plant extractives in the proportions given above, and show that the various statements referred to, regarding the absence of salicylic acid and salicylates are misleading and untrue. It further illustrates the repeatedly demonstrated fact that nostrums exploited as wonderful and new discoveries are new in name only—and whatever therapeutic value they possess depends on old and tried medicinal agents.

EDITORIAL NOTE: In describing the methods employed by the manufacturers of Manola in exploiting their product, attention was called to the fact that the Manola Company was reported as being a subsidiary affair of the Luyties Homeopathic Pharmacy Company of St. Louis. It is reported that this same company also operates the Walker Pharmacal Company, which exploits Hymosa and Pas-avena.—(*From the Journal A. M. A., June 11, 1910.*)

LIQUID LIFE

W. A. Puckner and L. E. Warren

A physician wrote to THE JOURNAL that for six years one of his patients had been taking about fifty bottles annually of a preparation called "Liquid Life;" he requested information concerning the composition of the remedy. The inquiry was referred to the Association's laboratory.

The price of the preparation being 75 cents for each bottle it seemed a pity that patients like this one should continue to be separated from their money by a nostrum which, from its name and descriptive circulars, appeared to be a sham. Hence it was explained to the correspondent that if he would send an original package of the preparation to the Association's laboratory a cursory examination would be made—sufficient in all probability to show his patient the folly of her faith in the nostrum.

An original package of "Liquid Life" having been received a cursory examination of it was made, which showed that the preparation is essentially an aqueous solution of Epsom salt, containing some Glauber's salt, the mixture being sweetened with saccharin. The facts brought out by the cursory examination having shown that the preparation is an outrageous imposition on the public, it was decided to make a more complete investigation with the view of publishing the results. Here is part of the label of "Liquid Life," the spelling and diction being exactly transcribed.

**"LIQUID LIFE
A
TRUE ANTITOXINE**

"This antitoxine is non-poisonous and non-alcoholic. It will expel all alcohol from the system at once, and so requires a great deal more antitoxine and time to effect a cure if any alcohol is used while taking it, but you can use whatever tobacco you have been accustomed to."

**ARRESTS DISEASES AND PREVENTS THE DEVELOPMENT OF
GERMS**

"All contagious diseases are germ diseases, and manifest themselves first as headache, pain in the back, lassitude and rise of temperature, at this stage a few doses of the antitoxine will arrest them at once and prevent any further development of the germs, no matter what their nature may be."

THE PATIENT SHOULDN'T MEDDLER WITH THE LEUCOCYTES!

"It is important that there should be no interference with the action of the leucocytes or white corpuscles by using purgatives or drugs of any kind while taking the antitoxine. If the bowels move very freely at first they will check them later, and if they do not move, wait till they do."

A paragraph taken from the circular describing "Liquid Life" is given on page 137. Considering its length, it is submitted as probably being the most faulty in diction, the most replete in false statements and the most barren of truthful suggestions of any paragraph in "patent medicine" literature.

To those conversant with the principles of medicine the reading of the label and circulars would alone be sufficient to condemn the nostrum as a humbug. Others might, however, be impressed as strongly by this jumble of meaningless phrases and vicious misrepresentations as by a logical and truthful statement of facts.

The labels indicate that "Liquid Life" is manufactured by the T. B. Chemical Co., Newark, N. J. The preparation is a pale yellow, faintly fluorescent liquid, having a faint, peppermint-like odor and a harsh, disagreeable taste. The presence of magnesium, sodium, a sulphate and small amounts each

of saccharin, zinc and quinin was demonstrated by the usual tests. Ammonium salts were absent. The absence of cocain, morphin and their derivatives and substitutes was shown.

Quantitative determinations indicated that the composition of "Liquid Life" is essentially as follows:

Crystallized quinin sulphate.....	0.0566 gm. in 100 c.c.
" zinc sulphate	0.2416 gm. in 100 c.c.
" magnesium sulphate (Epsom salt)	13.34 gm. in 100 c.c.
" sodium sulphate (Glauber's salt) (Calculated from sodium determination)	6.17 gm. in 100 c.c.
Saccharin	a trace.
Water (by difference) to make.....	100 c.c.

Secret nostrums—the so-called "patent medicines" sold to the public—are of two classes: One is harmless in itself, in that

THE HOME PHYSICIAN WHY LIQUID LIFE MAKES ONE

First it is antitoxine to all contagious diseases and so removes the fear of infection from the family. If given early, acts as a preventive, given later subdues the disease; is non-poisonous and non-alcoholic; there are no reactions or bad effects from it no matter how long it is taken. It contains in itself everything with the exception of food that should be taken into the stomach to keep the family in perfect health. Children born under the influence of the antitoxine, are just splendid and remain so after birth and grow up symmetrical with a healthy body and a clear brain, for when a dose of the antitoxine is given you call into action not only one physician but millions (the Leucocytes) and every one of them is a supernal surgeon and their power to restore the body to health is supreme, even in those diseases that have been found difficult to cure before, such as Pneumonia, Catarrh, Appendicitis, Blood Poison from any cause, Syphilis, Cancer, Malignant Diphtheria, Erysipelas, Scrofula, Tetanus or Lockjaw, Consumption, all Fevers, Rheumatism, Womb diseases, Bright's Disease, Diabetes and other diseases called incurable. Ladies will find the antitoxine is all they require to keep themselves in perfect health, and if taken for a short time before confinement will relieve them of half the pain and danger. It can also be used externally with marvelous effect in all cases requiring outside applications, or injected into all the orifices of the body where there is disease, in fact, being a true antitoxine, it solves the problem of Health and Disease.

it contains but little or none of any medicinal substances and is potent for harm only in so far that it restrains the user from seeking competent treatment; the other not only keeps the sick person from receiving the treatment which is indicated but contains ingredients which, when used indiscriminately, are potent for harm. Both classes are humbugs, especially because a large price is charged for what is usually worth but a few cents. In both classes there are all degrees of humbugs. "Liquid Life" easily belongs to the second class and is an

example of the worst in this class. Besides containing the poisonous ingredient, zinc sulphate, its chief ingredient is Epsom salt, the long continued use of which always does harm. When it is considered that during six years one patient consumed between \$200 and \$300 worth of the stuff (as sold at retail) the "degree" of the humbug may be appreciated.

In connection with the claim of the manufacturer that "Liquid Life" is "a true antitoxine" the following definitions for an antitoxin are given:

"A substance formed in the body, which neutralizes the poisonous products of a micro-organism; a defensive proteid." (Standard Dictionary).

"Any defensive proteid developed in the body as a result of the implantation of a poison, and acting as a neutralizer of the poison." (Dorland's Medical Dictionary).

In view of these definitions and of the findings of the analysis the absurdity of the claim that "Liquid Life" is "a true antitoxine" is patent.—(*Modified from the Journal A. M. A., Aug. 5, 1911.*)

MICAJAH'S MEDICATED UTERINE WAFERS

W. A. Puckner and W. S. Hilpert

Evidently touched by the generosity of the manufacturer in sending him a sample and literature, but not too favorably impressed by the claims made for the preparation referred to, a correspondent writes:

I enclose a valuable sample and literature just received. Such a palpable humbug as Micajah's Uterine Wafers would hardly seem to need notice were it not probably true that many practitioners habituated to the use of samples are still influenced by the glowing accounts of cures wrought; especially when attested by such a name and title as "Elmore Palmer, M.D., Ex-President Western New York Medical Society." This secret gynecologic medicament is recommended for anything from "Pruritis Vulvæ," "Enlargement of the Womb," "Displacements," "Cystocele and Rectocele," to the "Menopause."

Following the definition that by her "stomach" a woman means anything from her chin to her knees, the ex-president with truly noble impartiality has with the wonderful Micajah wafers wrought lightning cures all the way from "stone-bruise" of the heel to nasal polyp and influenza, and some of them are male patients too.

With the foregoing as an impetus to investigate the nature of this much advertised nostrum, the wafers were submitted to analysis by the Association laboratory. The report follows:

LABORATORY FINDINGS

Trade packages of the wafers purchased on the open market bear the name of the preparation and that of the manufacturers, Micajah & Co., Warren, Pa. The label states that the nostrum is a:

"Disinfectant, astringent and local alterative of the greatest virtue. A remedy for the local treatment of the diseases of women. Inflammation, engorgement and prolapse of the womb, vaginitis, leucorrhea, menstrual derangements and the disturbances incidental

to the menopause. Also highly recommended for affections of the mucous membranes in general, particularly those of the nose, the throat, the rectum, and for gonorrhea, cystitis, etc."

"This box contains wafers for three months' treatment."

"Price per box \$1.00."

The box contained 25 tablets, and a circular entitled, "Hints on the treatment of diseases of women," in which directions for the treatment of many diseases are given. It ends with a paragraph which contains the following statement:

"There is no doubt that the field of usefulness of Micajah's Wafers can be indefinitely enlarged by the ingenuity and therapeutic skill of the physician."

Much of the advertising "literature" is in the form of leaflets, brochures and small pamphlets full of testimonials by physicians.

Micajah's uterine wafers as found on the market are white, hexagonal tablets, odorless and possessing an astringent taste. The wafers are soluble in water with extreme difficulty. Hot hydrochloric acid and alkali hydroxids dissolve the powdered tablets readily, leaving a slight residue which under the microscope and by physical tests was identified as lycopodium.

The acid solution of the wafers responded to qualitative tests which indicated the presence of potassium, sodium, aluminum, sulphate, borate and a mere trace of a fatty material. Quantitative estimation of boric acid, aluminum, sulphate, sodium and potassium were made, which indicated that Micajah's Uterine Wafers consist of alum more or less anhydrous or "burnt," boric acid and borax in approximately the following proportions:¹

Alum, dried	59.86 per cent.
Borax, dried	15.62 per cent.
Boric acid	5.67 per cent.
Water of hydration.....	18.85 per cent.

The average weight of the tablets is 0.7791 gm. (11.8 grains) and allowing for the fact that the quantity of water present in commercial exsiccated alum varies, each tablet would contain approximately 0.4986 gm. (7.8 grains) burnt alum; 0.2337 gm. (3.6 grains) crystallized borax, and 0.0467 gm. (0.7 grain) boric acid.

COMMENT

Judging from the "literature" that goes with the packages of this nostrum, one might imagine that it was put up absolutely for the layman, but this is not the case. It is advertised only in medical journals and not directly to the public. But direct advertising to the public is not necessary; for every physician who prescribes these wafers at the same time places in the hands of his patient advertising matter intended to influence that patient—and it usually does. As a result this preparation is being bought by the public direct. To what

1. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

extent we do not know, but physicians are responsible for it. Probably if physicians realized that the same interests that control Piso's Consumption Cure also control Micajah's Medicated Uterine Wafers they would not be so ready to act as the unpaid agents for the concern.

That such simple astringents and feeble antiseptics as alum, borax and boric acid could have such remarkable curative effects on uterine diseases is absurd. The serious aspect of the matter is, that, by the encouragement given them in the advertising literature to treat themselves, women may neglect proper surgical or medical attention in the early stages of serious diseases such as cancer or dangerous pelvic infections, until they get beyond the hope of proper management. But when nostrum promoters urge the use of such inefficient remedies in the treatment of gonorrhea, it is time to look at the matter seriously. Considering the vital social significance of the venereal diseases, the employment of useless remedies can only favor the spread of these infections, which cause such a large proportion of the diseases which afflict women particularly.

The medical profession for the most part has become mentally calloused to the exaggerated claims of the nostrum makers and does not make sufficient effort to condemn them. There may be some physicians, however, who use such preparations as these wafers in their practice, as is indicated by the circulars wherein the manufacturers suggest that their "usefulness can be indefinitely enlarged by the ingenuity and therapeutic skill of the physician." It is only occasionally that a physician voices his indignation as to these humbugs, as in the case of the physician whose letter is quoted above.—*(From The Journal A. M. A., March 26, 1910.)*

The Firm Replies

To the Editor:—We have read with interest the report of your committee on pharmacology recently published in THE JOURNAL, on the subject of Micajah's Medicated Uterine Wafers, and your comments thereon.

We are of the opinion that, in your laudable efforts to reform the practice of pharmacology, it is not your desire or intention to act other than justly and fairly, and therefore, with this belief, we submit the following statements for your consideration, with the hope that you will see fit to publish them.

1. We do not seek by word or deed the patronage of the laity, and what few sales are made to the public are not of our contriving, nor should we be held responsible for them, any more than is the manufacturer of quinin to be blamed for the universal use of that drug.

2. Our literature should not be considered extravagant, for it is for the most part made up of clinical reports received from physicians and based on the unsolicited testimonials in our possession from hundreds of practitioners, many of whom

have used Micajah's Wafers in practice from five to twenty years and they are therefore as well grounded as are the clinical reports concerning any preparation.

3. In the past year we have endeavored to place our preparation on a higher ethical basis by stating in our advertisements what our wafers contain, and by eliminating whatever seems to us open to criticism.

4. That the ingredients of the preparation are "simple" is no reason for considering them valueless. H. A. Kelly, in his work on medical gynecology, page 266, recommends these ingredients in a variety of conditions. Bandler also made important recommendations bearing on this subject in his "Medical Gynecology," 1909 edition, page 472. We feel we have the right to recommend this preparation for these and similar conditions, especially when our statements are backed up by the clinical experience of numerous general practitioners.

5. That the owner of Micajah's Wafers holds stock in a corporate firm which manufactures proprietary medicines and toilet articles, advertised to the laity, should not militate for or against our right to market a meritorious preparation on strictly ethical lines to the medical profession, inasmuch as many of the largest drug houses cater to both the doctor and the proprietary interests, and several are actively engaged in exploiting so-called nostrums.

6. We enclose a recent advertisement which has been accepted after investigation of our methods by careful medical journals, and we now believe we are conducting our business in entire conformity with the best interests of the medical profession and we feel certain of the true merits of our article.

MICAJAH & COMPANY, Warren, Pa.

[COMMENT: This letter brings out still more strongly the points raised in the article which appeared in *THE JOURNAL*, March 26, 1910. Being unable to analyze motives we must perforce, accept Micajah & Co.'s statement that they "do not seek by word or deed the patronage of the laity." In the comments on the laboratory's report it was very explicitly stated that this nostrum was advertised only in medical journals and not directly to the public. Inasmuch, however, as the container in which this product comes has printed on it the various diseases in which the "wafers" are indicated, as, moreover, within the container there is a leaflet which describes in detail the use of the preparation in a list of pathologic states varying from "enlargement of the womb" to "gonorrhea in the male," and, finally, as the name "uterine wafers" would seem in itself to be a plain bid to the public, we still maintain that "one might imagine that it was put up absolutely for the layman."

The proposition that advertising matter should not be considered extravagant because it is largely "made up of clinical reports received from physicians" is an argument that is as old as the nostrum business itself—and as fallacious as it is old. Unfortunately, as our files show, the most extravagant statements made for proprietary products frequently emanate

from men who legally are entitled to write M.D. after their name. The fact that it is, not the manufacturer, but a Buffalo physician who tells of the marvelous results he obtained from the use of Micajah's Medicated Uterine Wafers in forty-three cases comprising no fewer than thirty-six pathologic conditions from "otitis media" to "injured toe," and from "bunion" to ophthalmia neonatorum "does not exempt the firm that prints such stuff from the charge that its "literature" is not merely extravagant, but ridiculously so.

As Micajah & Co. say, because the ingredients of their preparation are simple is no reason for considering them valueless. On the contrary, if the "wafers" were truthfully exploited for what they are and what they will do, their very simplicity would be a virtue. But such has not been done. And therein lies the viciousness of nostrums. Simple mixtures of well-known drugs are foisted on the medical profession with no hint as to their composition and with claims made that are not only false, but would immediately be recognized as absurd, if their actual composition were known.

That a mixture of borax and alum may be of value in some of the simple ailments of the female genital tract can easily be granted. That relief might follow the use of suppositories made of these ingredients—especially when supplemented by an increased attention to simple cleanliness—can also be admitted. To say, however, that such medicaments will quickly and permanently cure gonorrhea, urethritis, endometritis, etc., is foolish, false and vicious.](*From The Journal A. M. A., April 16, 1910.*)

NOITOL AND ANADOL

W. A. Puckner and L. E. Warren

Noitol

THE JOURNAL received an inquiry concerning the composition of Noitol, a preparation which is being advertised to the medical profession as a "specific" for the cure of eczema and certain other cutaneous diseases. The preparation is manufactured by the Wheeler Chemical Works, Chicago. Trade packages of Noitol were purchased and examined in the Association laboratory. On the label of the package, Noitol—an inversion of the word "lotion"—is described as follows:

NOITOL

(DR. BRADBURY'S ECZEMA LOTION.)

For External Application Only!

Our Most Popular Specialty.

A specific for the cure of Eczema, Scrofulous and Syphilitic Eruptions, Lupus, Salt Rheum, Tetter, Itch. This remedy is composed of valuable Oils, combined with Vegetable and Mineral Acids in such proportions as cause a rapid and permanent cure of the above complaints.

Noitol is a clear, nearly colorless, acid solution, the greater portion of which is water. Its specific gravity is 1.0097 at 25 C.

Qualitative tests demonstrated the presence of a chlorid, a nitrate, a mercuric salt, free acid and glycerin. No "oils" or "vegetable acids" could be found.

Analysis¹ of the preparation indicated that its composition is essentially as follows:

Mercuric Chlorid	0.0463 gm. in 100 c.c.
Mercuric Nitrate	0.0450 gm. in 100 c.c.
Glycerin	1.3021 gm. in 100 c.c.
Nitric Acid	1.0265 gm. in 100 c.c.
Water (by difference).....	98.5545 gm. in 100 c.c.

From the above it appears that Noitol is simply a weak, acid solution of mercury salts—the total being approximately equivalent to a 1 to 1,000 bichlorid of mercury solution—exploited under a meaningless name. It is but one more example of the old, old story of a well-known remedy being sold at a high price under a name which is in no way indicative of its composition, and under claims which are absurdly false.

The price of the mixture is \$2.00 a pint; the estimated cost, exclusive of the container, is about 6 cents a gallon, or, put another way: the price of a pint bottle, it is estimated, would make a barrel (31 gallons) of the nostrum. The incorrect statement made concerning its components, the unwarranted therapeutic claims made for it, and the exorbitant price easily place Noitol in the front rank among the "patent medicine" frauds. Yet it is advertised to physicians as an ethical proprietary and is evidently being prescribed by them.

Anadol

In the circular matter accompanying the trade package of the preparation, "Noitol," described above, a preparation called "Anadol" is described. Anadol is claimed to be an analgesic and antipyretic. In the descriptive circular there is no information concerning the composition of the preparation, but from the general therapeutic description the physician might easily be led to believe that "Anadol" is a distinct chemical substance.

To reduce temperature the physician is advised to push the administration of Anadol in 10 grain doses until the febrile condition is under control or until a maximum of 70 grains of the preparation has been ingested. The circular further states:

" . . . In this lies the special value of ANADOL; there are no annoying by-effects; the stomach bears the remedy well and neither circulation, respiration, nor the nerve centers show the least disturbance."

1. Details of this analysis are published in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

As no evidence could be obtained concerning the composition of Anadol and, as the preparation is being brought to the attention of physicians by means of circulars in connection with the distribution of Noitol, it seemed worth while to take up its examination in the Association laboratory. Accordingly a trade package of the material which had passed into interstate commerce was purchased.

Qualitative tests demonstrated the presence of sodium, a carbonate, caffen and acetanilid, the latter in considerable quantities. Analysis² indicated that the composition of the specimen examined is essentially as follows:

Acetanilid	79 per cent.
Caffen	1 per cent.
Sodium bicarbonate	20 per cent.

Since, according to the circular, it is permissible to prescribe 70 grains of this preparation within 2½ hours, a patient thus treated would receive no less than 55 grains of acetanilid! In view of the numerous cases of poisoning due to the misuse of acetanilid ("The Harmful Effects of Acetanilid, Antipyrin and Phenacetin," U. S. Dept. Agric., Bur. Chem., Bull. No. 126) the physician should be apprised of the composition of Anadol.

EDITORIAL NOTE: The chemical investigations reported above emphasize once more the need of such an institution as the Association's laboratory and again demonstrate the value of its work. At first sight it seems disheartening to find that physicians are so easily humbugged. Yet when it is remembered that it is impracticable for physicians either to analyze such products themselves or to go to the expense of having chemists do it for them, it is evident that the fault lies not so much with the physicians as with the conditions that make the exploitations of such frauds possible. It is on the public that the burden ultimately falls, for it is the layman who has to pay two dollars for a few cents' worth of medicine. But—and this is far more serious—that the physician should be urged to dose his patient with an insidiously dangerous drug to a point far beyond the limits of safety, is little less than criminal. Yet so long as unknown medicinal products are prescribed just so long will this danger be a very real one. —(*From The Journal A. M. A., May 21, 1910.*)

Anadol Declared Misbranded

Anadol was analyzed at the Bureau of Chemistry and the chemists reported that it contained over 82 per cent. of acetanilid. As the labels did not bear any statement as to the quantity of acetanilid contained in the nostrum, the stuff was declared misbranded and the defendant, on pleading guilty, was fined.—[*Notice of Judgment, No. 795.*]

2. Details of this analysis are published in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

SALIODIN

W. A. Puckner and A. H. Clark

[The Council on Pharmacy and Chemistry refused recognition to Saliodin because it conflicts with Rules 1 and 6, and directed publication of the following.

W. A. PUCKNER, Secretary.]

Saliodin is sold by the Saliodin Chemical Co., Scranton, Pa. In the literature and on the trade package the following "formula" is given:

FORMULA	
Each Grs. XX of Saliodin contains approximately:	
R	
Salicylic Acid, (Aceto-Salicylate) - - -	Grs. XV
Iodine, (Iodate) Equivalent to Iodide Potass	Grs. XV
Acetic Acid, (Acetate) Equiv. to Acetate Potass	Grs. V
Aconite - - - Equiv. to - - -	Tr. Aconite R. Gts. IV
Bryonia - - - " " - - -	Tr. Bryonia, Gts. V
Colchicum - - - " " - - -	Vin. Colchicum R. Gts. XV
Capsicum - - - " " - - -	Tr. Capsicum Gts. II
Oil Gaultheria - - - " " - - -	" III

This formula being indefinite and vague, the examination of saliodin was taken up in the Association laboratory.

From the analysis we calculate the composition of saliodin to be approximately equivalent to a mixture of:

Sodium salicylate	57.54
Potassium iodid	1.18
Potassium acetate	30.00
Matter volatile at 130° (oil of anise, oil of gaultheria, moisture, etc.)	8.10
Undetermined (extractive?)	3.18
	<hr/> 100.00

The analysis shows that the formula is not only indefinite and vague, but incorrect and false.

To emphasize the incorrectness of the published formula the following comment on its first two items is offered:

In the "formula" it is stated that 20 grains of saliodin contain approximately "salicylic acid (aceto-salicylate) Grs. XV." The statement is not clear, but conveys the impression that 20 grains of saliodin contain an amount of an aceto-salicylate, a salt of acetyl-salicylic acid (aspirin), equivalent to 15 grains of salicylic acid. But the chemical examination shows that it contains neither acetyl-salicylic acid, or salt of acetyl-salicylic acid, nor even salicylic acid itself. In the place of these, the analysis shows that over half of saliodin is the common, every-day sodium salicylate.

According to the "formula," each 20 grains of saliodin contains "iodin (iodate), equivalent to iodid potass. Grs. XV." This statement, too, is vague, but conveys the impression that 20 grains of saliodin contain an amount of iodine, in combina-

tion as an iodate, which corresponds in iodine content to 15 grains of potassium iodide. But the analysis shows that the product does not contain any iodate whatever, and that the amount of iodine contained in it is sufficient to account for only $\frac{1}{4}$ grain of potassium iodide in each 20 grains of saliodin.

COMMENTS

The above report is published simply as another example of the "ethical proprietaries" that physicians are asked to prescribe. It is not unique. It is neither better nor worse than hundreds of others.

To show what absurdities appear in the "literature" (?) that is sent to physicians, we reproduce a paragraph from an advertising pamphlet. The promoters' statement as to the composition of the product is absurd, but not more so than are the claims made for it as a therapeutic agent. There is

It is an "Iodated, Aceto-Salicylate with Adjuvants," and the SPECIFIC treatment for every form of URIC ACID DIATHESIS. "Saliodin" is a SOLVENT and ELIMINANT of URIC ACID and is a happy combination of **R** Salicylic Acid, Iodine, Acetic Acid, Aconite, Bryonia, Colchicum, Capsicum and Gaultheria and chemically appears in the form of a PINK, GREYISH POWDER soluble in water 1 to 3—dose grs. X to grs. XXX; for the EXCLUSIVE USE OF PHYSICIANS—put up in one ounce bottles; price PER OUNCE \$1.50. Is manufactured ONLY by the Saliodin Chemical Co. "SALIODIN is SPECIFICALLY indicated in RHEUMATISM, GOUT NEURALGIA, MALARIA and LA GRIPE; is ANALGESIC, ANTIPYRETIC; an INTESTINAL ANTISEPTIC, DIAPHORETIC, DIURETIC, EXPECTORANT, DEOBSTRUENT, SIALAGOGUE, CHOLAGOGUE, EMENAGOGUE, ANTI-SYPHILITIC, GONOCOCCICIDAL, PARASITICIDAL, ASEPTIC, BACTERICIDAL and ALTERATIVE. Doctor, you may prescribe Saliodin with confidence wherever IODINE or a SALICYLATE is indicated. Used both internally and externally.

Reproduction (much reduced) of a paragraph in the advertising pamphlet on Saliodin. Note the twenty-one indications for Saliodin. Lest some condition might be overlooked, we are advised to use it "internally and externally." Isn't this scientific therapy?

not a "patent medicine" on the market for which any more blatant, extravagant and ridiculous claims are made.

The manner of exploiting saliodin is another illustration of the tendency on the part of nostrum-makers to advertise their wares through pseudo-scientific articles published in a certain class of medical journals. In the pamphlet sent out by the Saliodin company appears a reprint of an article from the *Philadelphia Medical Summary* of February, 1905. It is entitled "A Similarity in the Etiologic Factors of Rheumatism and Malaria," and was written by J. C. Denston, M.D. In it occurs this statement: "The manufacturers (of saliodin) publish their formula and, I think, distribute samples and literature on request." The charming ingenuousness of this statement is fully realized when it is understood that J. C. Denston is the president of the Saliodin company. This is

also another illustration of what is now a common occurrence, viz.: men who are engaged in manufacturing proprietary products and who have an M.D. degree use that degree as a commercial asset, and by this means the average reader is led to think that articles written by them in praise of their own products are spontaneous tributes from practicing physicians.—(*From The Journal A. M. A., Oct. 26, 1907.*)

TABLETS OF BISMUTH, OPIUM AND PHENOL

W. A. Puckner and A. H. Clark

CONTRIBUTION NO. 1

The demand for "palatable and convenient" medicaments has led manufacturing pharmacists to attempt to produce in tablet form mixtures which, from the nature of the case, are not suited to that method of compounding. In such cases

Manufacturer.	Per cent. phenol according to formula on label. ^a	Per cent. phenol found.	Amount found ex- pressed as per cent. of amount claimed. ^b
	1	2	3
Hance Bros. and White.....	8.45	1.85	21.89
W. S. Merrell Chemical Co.....	6.30	3.08	48.89
H. K. Mulford & Co.....	1.72	.90	52.34
Parke, Davis & Co (No. 1).....	6.08	...	70.23
Parke, Davis & Co. (No. 2).....	5.87	2.74	47.02
Sharp & Dohme (No. 1).....	8.41	6.11	72.65
Sharp & Dohme (No. 2).....	8.23	2.85	34.63
Frederick Stearns & Co.....	7.27	1.93	26.55
Truax, Greene & Co.....	10.03	1.36	13.69
H. K. Wampole & Co. (No. 1)....	9.19	4.24	46.14
H. K. Wampole & Co. (No. 2)....	8.98	3.49	39.31
Wm. R. Warner & Co.....	12.08	1.53	12.66

^a These figures were obtained by dividing the difference in weight of the heaviest and lightest tablet by the average weight and multiplying this quotient by one hundred.

^b The figures given here are obtained by dividing the highest per cent. of phenol found by the per cent. of phenol indicated by the formula on the package and multiplying this quotient by one hundred.

it becomes a question as to what reliance the physician may place in such products, and so an examination of a type of these preparations was made in the Association's laboratory.

Nearly every manufacturing pharmacist lists in his catalogue a tablet composed of bismuth, opium and phenol (carbolic acid). According to the price lists and labels, each tablet contains either five or three grains of bismuth subnitrate, one grain of aromatic powder, one-half grain of powdered opium and one-half grain (in one case one-eighth grain) of phenol.

Specimens of different makes of this tablet were purchased, in open market and from the manufacturer, and were examined to determine the amount of phenol each contained. A long series of experiments, the details of which will be published elsewhere, were carried out to determine the best method of estimating the amount of phenol in mixtures of this nature.

The results here tabulated were obtained from the examination of specimens purchased direct from the manufacturer. At least one other specimen—bought in the open market—of each manufacturer was examined, the latter giving in nearly every instance a lower figure, probably because it had been in stock longer. In the few cases in which the latter specimen gave a higher result, both findings are given.

The essential point brought out by the table is, of course, that shown by the figures in Column 3—"Amount Found Expressed as Per Cent. of Amount Claimed." It should be realized that if the tablets contained the amount of phenol claimed, the numbers in this column would all be 100. But instead of this even the best specimen contained only 72.65 per cent., while some ranged as low as 12.66 per cent.

These tablets are a typical illustration of the attempts to produce, in "elegant and palatable form," the impossible—impossible at least without care and expense. From the nature of the processes involved in the manufacture of a tablet, it is very difficult to produce one containing a definite amount of a volatile substance like carbolic acid. Accuracy in dosage is indispensable to the scientific administration of drugs. In medicinal preparations of the type just described the essential—accuracy—is sacrificed for the merely desirable—convenience and palatability. To the extent to which physicians prescribe, as tablets, combination of drugs that cannot be successfully put up in that form, to that extent does scientific medicine suffer.—(*Modified from The Journal A. M. A., July 25, 1908.*)

W. A. Puckner and W. S. Hilpert

CONTRIBUTION NO. 2

More than two years ago the examination of tablets of bismuth, opium and phenol was taken up in the Association laboratory to determine the reliability of pharmaceutical preparations of complex formulas, more or less difficult to prepare. The result of this examination, published in *THE JOURNAL*, July 25, 1908, p. 330, showed that the tablets sold by different firms contained amounts of phenol ranging from 72.65 per cent. down to 12.66 per cent. of the amount the tablets were claimed to contain. In discussing this discrepancy three questions may be asked: 1. Are these supposedly reputable firms deliberately selling these products below standard? 2. Are these firms unable to determine the quality of their product? 3. Do these firms merely neglect to determine the composition of the finished product? In other words, are these firms dishonest, incompetent or merely negligent? Considering the standing of the firms named in the report, one would hesitate to say that these discrepancies were due

either to dishonesty or to incompetence and would be inclined to take the more charitable view of negligence.

Two years having elapsed and the report of the laboratory having been given the widest publicity, it would seem that if these firms were ignorant of the real composition of their product at the time the examination was made and published, they would by this time have had ample opportunity to correct the matter, and either to have brought the products up to the claim or else to have discontinued their sale.

To determine whether the discrepancies pointed out in the report referred to could be ascribed to ignorance and whether the firms had made any effort to improve the quality of

Manufacturer.	Per cent. phenol according to formula on la- bel. ^a		Per cent. phenol found.		Amount found expressed as per cent. of amt. claimed. ^b		Percentage of variation (plus or mi- nus) between 1908 and 1910 findings.
	1908	1910	1908	1910	1908	1910	
Hance Bros. & White	8.45	8.19	1.85	2.80	21.89	34.19	+12.30
W. S. Merrell Chem. Co....	6.30	6.91	3.08	3.98	48.89	57.59	+ 8.70
H. K. Mulford Co.	1.72	1.70	0.90	1.08	52.34	63.53	+11.19
Parke, Davis & Co.....	6.08	5.42	...	2.54	70.23	46.86	-23.37
Sharpe & Dohme	8.41	8.49	6.11	4.43	72.65	53.39	-19.26
F. Stearns & Co.	7.27	7.51	1.93	1.74	26.55	23.17	- 3.38
Truax, Greene & Co.....	10.03	10.00	1.36	2.81	13.69	28.09	+14.40
H. K. Wampole & Co.....	8.98	8.80	3.49	4.73	39.31	53.75	+14.44
W. R. Warner & Co.	12.08	12.15	1.53	1.49	12.66	12.27	- 0.39

^a These figures were calculated from the claimed phenol-content of each tablet and the average weight of the tablets found.

^b These figures were calculated from the percentage of phenol claimed (Column 1) and the percentage found (Column 2).

the products, specimens of these tablets as sold by each of the firms concerned in the first report were again purchased from one of the large wholesale drug houses and their phenol content again determined.¹ The following table gives the result of this examination.

From the above results it is seen that at the present time the phenol-content of the tablet now ranges from a maximum of 63.53 per cent. down to a minimum of 12.27 per cent. of that claimed on the label. The products of some of the firms have improved somewhat, while the products of others are worse than they were two years ago. On the whole, it seems that many of the firms still sell these products without being greatly concerned as to their composition. But

1. For method of analysis see "Method B." In the annual report for 1908 of the Chemical Laboratory of the American Medical Association.

one firm, whose product contains nearly two-thirds ($\frac{2}{3}$) of the amount of phenol claimed, the H. K. Mulford Co., appears to have considered the past report. The trade package now bears the following legend: "The amount of phenol in this tablet on account of its volatile nature is approximate." It would seem, then, that, of the three alternatives suggested, the one ascribing this discrepancy to negligence must be discarded and the profession must decide whether it is to be attributed to incompetence or dishonesty.

[EDITORIAL NOTE:—The findings of the Association chemists are not creditable to the pharmaceutical manufacturers concerned. The question asked is a serious one. Regarding at least most of the firms the charge of incompetence would hardly hold, since they employ chemists who are men of standing and are known to be entirely competent to control the manufacture of their products. To say that these firms are dishonest in the matter is a serious charge and no one will believe for a moment that they deliberately used a deficient amount of drug for the sake of saving a few paltry cents in the manufacture of these tablets. We would be inclined to take the view that these firms have little respect for physicians who use such complex mixtures; that, though producing, as a general rule, reliable and honest medicines they believe that in the case of products such as these, scientific accuracy is a waste of time. Perhaps they are right. At least, this should serve as a lesson to physicians who are inclined to use complex, ready-made formulas of this kind and persuade them to write individual prescriptions whose correct compounding by competent pharmacists may be depended on.]—(From *The Journal A. M. A.*, Dec. 17, 1910.)

W. A. Puckner and W. S. Hilpert

CONTRIBUTION NO. 3

Nearly three years ago, a contribution from the Chemical Laboratory appeared in *THE JOURNAL*, dealing with the composition of tablets of bismuth, opium and phenol (carbolic acid). It was there shown that these tablets contained only from 72.65 per cent. down to as low as 12.66 per cent. of the amount of phenol stated on the label.

After publishing these results in detail and waiting a little more than two years, we again examined similar tablets of the same makes, bought in the open market. The results of this second examination were published in *THE JOURNAL*, Dec. 17, 1910. Instead of finding that conditions were better, that the firms had made an effort to market tablets that were true to the label, this examination showed that the phenol-content of the tablets now ranged from 63.53 per cent. down to 12.27 per cent. of the amount claimed.

This second examination also showed that the manufacturers were not sufficiently concerned with the quality of their product to call in any stock which they must have known was untruthfully labeled. In view of this fact, it was thought worth while both to learn the ages of the various tablets that

were purchased at the time of, and for the purpose of, making the second examination and also to examine the most recently made tablets put out by the same firms. Accordingly, the identifying marks on each package of tablets examined, which formed the basis of the report of the second paper, were sent to the respective firms with inquiries as to the date of the manufacture of these various specimens. At the same time orders were placed in each case for the firm's most recently made product.

The result of this work is arranged in tabulated form as follows: Table 1 gives the age of the specimens that were used for the second examination; Table 2 compares the composition of tablets as found in the first and second examinations with the composition found in the present (third) examination.

TABLE 1.—AGE OF TABLETS IN SECOND EXAMINATION

MANUFACTURER	DATE OF MANUFACTURE	DATE OF PURCHASE	AGE WHEN PURCHASED
Hance Bros. & White...	Sept. 17, 1910.	Oct. 27, '10	1 month.
W. S. Merrell Chem. Co.	July 11, 1906..	Oct. 27, '10	4 years.
H. K. Mulford Co.....	Nov. 22, 1909..	Sept. 15, '10	1 year.
Parke, Davis & Co.....	Sept., 1910....	Sept. 15, '10	Under 1 mo.
Sharp & Dohme.....	June 1, 1906...	Sept. 15, '10	4 years.
F. Stearns & Co.....	August, 1906..	Oct. 27, '10	4 years.
Truax, Greene & Co....	Prior to 1906..	Sept. 16, '10	4-5 years.
H. K. Wampole & Co...	Aug. or Dec., '08	Oct. 27, '10	2 years.
W. R. Warner & Co....	Aug. 3, 1906...	Nov. 11, '10	4 years.

TABLE 2.—COMPOSITION OF TABLETS IN FIRST, SECOND AND THIRD EXAMINATIONS

PHENOL FOUND EXPRESSED AS PER CENT. OF AMOUNT CLAIMED

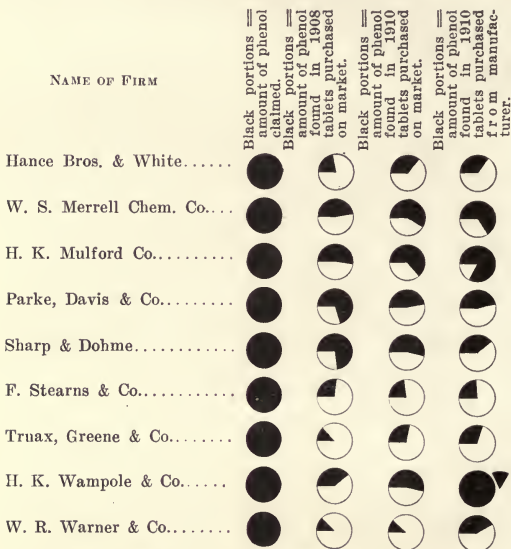
MANUFACTURER	SPECIMEN PURCHASED ON MARKET		SPECIMEN OBTAINED FROM MANUFACTURER
	1908	1910	
Hance Bros. & White.....	21.89	34.19	34.49
W. S. Merrell Chem. Co....	48.89	57.59	68.43
H. K. Mulford Co.....	52.34	63.53	83.18
Parke, Davis & Co.....	(a) 70.23		
	(b) 47.02	46.86	46.83
Sharp & Dohme.....	(a) 72.65		
	(b) 34.63	53.39	38.14
F. Stearns & Co.....	26.55	23.17	24.86
Truax, Greene & Co.....	13.69	28.09	28.24
H. K. Wampole & Co.....	(a) 46.14		
	(b) 39.31	53.75	112.64
W. R. Warner & Co.....	12.66	12.27	41.47

Strange as it may seem, some of the manufacturers wrote as if they had not known of the former publication of the laboratory's examination.

Wm. R. Warner & Co. writes that it is going to engage the services of a commercial chemist to examine the stock and that it will not offer the tablets for sale until assurance is had that the tablets are true to claim. While it may cause some surprise to learn that this firm must engage outside talent to learn the quality of its own wares, the decision to

discontinue the sale of its practically worthless stock is to be commended.

The tablets which were obtained direct from H. K. Wampole & Co. and which were found to contain an amount of phenol in excess of the amount claimed were quite different in appearance when received from any previously examined in



The above presents the findings of the Association chemists in a graphic form and shows the great discrepancies between the claims made for the tablets and the actual facts. The solid black portions represent the phenol-content. In the first column is given the phenol content claimed by the manufacturer; in the second column is shown the actual phenol-content found in the tablets purchased in 1908; the third column represents the phenol-content as found in the tablets purchased on the market in 1910, while the fourth column shows the phenol-content of the tablets purchased in 1910 direct from the manufacturer. Note the excess of phenol in the tablets sent by H. K. Wampole & Co. in filling the order for a bottle of the most recently made products. (*From The Journal A. M. A., May 6, 1911.*)

that they were damp and had a strong odor of phenol. About two months later, the tablets of this batch which remained in the bottle presented a most remarkable appearance in that they were covered with an efflorescence of crystals of phenol. Should these tablets be dispensed on a physician's prescrip-

tion the possibilities are that the pure phenol would come in direct contact with the tongue and throat and produce painful burns. Of course these tablets are quite unfit for use.

Another important matter brought out is the fact that ready-made mixtures, such as these tablets, may be four or five years old before they leave the hands of the wholesaler. While, in this case, the efficiency of the remedy is not influenced by age, it is a well-known fact that many drugs rapidly deteriorate. If tablets such as these are likely to be four or five years old before they leave the wholesale house, how old will they be before they are dispensed on a physician's prescription? This question is a pertinent one and the answer—which the laboratory's work furnishes—should do much to discourage the prescribing of such ready-made mixtures.—*(From the Journal A. M. A., May 6, 1911.)*

UNGUENTINE

W. A. Puckner and A. H. Clark

Attention has been called at various times to the fact that the value of a published "formula" to a proprietary remedy is in direct ratio to the reliability of the manufacturer publishing it. When medical journals first insisted on their advertisers' letting physicians know the contents of the remedies they wished to sell them, medical literature reeked with formulas—some of them of weird and wonderful design. Since the advent of the Food and Drugs Act, which requires that labels shall approximate truthfulness, and particularly since the Council on Pharmacy and Chemistry has investigated a number of proprietary remedies, the publication of "formulas" is not so common.

Unguentine, manufactured by the Norwich Pharmacal Co., is one of those remedies whose advertisement for years always included "a formula"; more recently, however, this is not in evidence. In an advertisement which appeared about ten years ago, the "formula" given is:

"Carbolic acid	2 per cent.
"Ichthyol	5 per cent.
"Alum	15 to 16 per cent."

It was claimed that by a special process of their own, the manufacturers had eliminated most of the astringent properties of the alum, rendering it non-irritant. It was also stated that "the base of Unguentine is pure petrolatum." Later the manufacturers seem to have changed the composition of their product, or at least the "formula" given in the advertisements was changed. Thus it appeared:

"Alum	15 per cent.
"Zinc oxid	5 per cent.
"Carbolic acid	2 per cent.
"Ichthyol	5 per cent.
"Aromatics and antiseptic oils with specially prepared petrolatum and animal fat base."	

The introduction of zinc oxid, aromatic and antiseptic oils and animal fat was a new feature. Somewhat later, and particularly since the passage of the national Food and Drugs Act, no formula or other statement regarding the composition seems to have appeared in the advertisements in the medical press. In the 1906 price-list (p. 170) the following formula appears:

"Unguentine represents:	
"Alum (non-irritating)	15 per cent.
"Phenol	2 per cent.
"Ichthyol	5 per cent.
"Zinc oxid	5 per cent.
"Aromatic and antiseptic oils, with especially prepared petrolatum and purified animal fat."	

In the price-list issued for 1908—after the Food and Drugs Act went into effect—the following appears:

"Unguentine represents:	
"Alum compound (non-irritating)	
"Phenol,	
"Ichthyol,	
"Zinc oxid,	
"Aromatic and antiseptic oils, with especially prepared petrolatum and purified animal fat."	

Thus the proportions are omitted, and alum becomes "alum compound," whatever that may mean.

In view of the conflicting statements made by the Norwich Pharmacal Company, in regard to their leading specialty, Unguentine, and especially because much stress was laid on the filing of their "guarantee" under the Food and Drugs Act, it was decided to ascertain of what Unguentine really consists.

From our analysis we conclude that Unguentine contains not alum but aluminum acetate (small amounts of alum may be present as impurities in the aluminum acetate), zinc oxid, or more probably impure zinc carbonate, and that the entire quantity of both does not exceed 5 per cent. It contains no ichthyol, or if any but the merest traces, and less than 1 per cent. of phenol. The aromatic oils amount to not more than approximately 1 per cent. in all. The ointment-base is, in the main, petrolatum.

In Unguentine we have, therefore, another proprietary "specialty," regarding the composition of which indefinite, false or misleading statements have been made—this irrespective of protestation of honesty by the firm.—(*From The Journal A. M. A., March 27, 1909.*)

URICEDIN

W. A. Puckner and A. H. Clark

In view of the results of investigations by Zernik of Uricedin as sold in Germany, and because it is being advertised to physicians in this country, an examination of this product was made in the laboratory of the American Medical Association. Zernik's report shows how this remedy has varied in its composition as put on the market in Germany. From their analysis the authors find that Aricedin is not a definite chemical compound as is claimed, but is a simple mixture whose composition is approximately:

Sodium sulphate (anhydrous).....	61.52 per cent.
Sodium citrate (anhydrous).....	29.62 per cent.
Sodium chlorid	2.13 per cent.
Citric acid (anhydrous).....	3.25 per cent.
Molsture	2.53 per cent.
Undetermined	0.95 per cent.

100.00

Uricedin, therefore, is not a definite chemical compound as claimed, but a simple mixture which consists essentially of sodium sulphate (dried Glauber salt) $\frac{2}{3}$, and sodium citrate $\frac{1}{3}$. It is, therefore, a typical nostrum, and, as it appears, one the composition of which is changed from time to time to suit the whim of the manufacturer. The therapeutic claims made for it are of the usual extravagant character. According to a recent advertisement it is "used successfully for Gouty Diathesis, Urinary Calculi, Rheumatoid Arthritis," "useful in Migraine, Occipital Headache, Epilepsy, Hay Fever, Asthma," etc. If such a simple mixture will do all that this one is claimed to do, let us use it, but prescribe its ingredients under their proper names. Such a mixture would cost only a few cents a pound, but this nostrum is listed at \$1.25 a bottle of five ounces, or probably \$1.75 at retail, and this for the benefit of its foreign manufacturers and their agents.—(*Abstracted from The Journal A. M. A., Nov. 23. 1907.*)

URISEPTIN

W. A. Puckner and W. S. Hilpert

"Uriseptin," manufactured by the Gardner-Barada Chemical Co. of Chicago and claimed to be a "urinary antiseptic, uric acid solvent and diuretic," was examined in the laboratory of the American Medical Association to determine to what extent the claims made for it are justified.

The preparation as purchased in the open market bears a label which presents the claims of the manufacturers, emphasized by the chemical analysis duly signed by an analyst and attested by a notary. Accompanying is a reproduction of part of the label.

Before the examination had extended very far it was found that discrepancies existed between facts and claims, and by

the time the analysis was complete Uriseptin was found to be in the same class as many other proprietary remedies that have been discussed in these columns.

Our examination shows that the most misleading statement is that concerning the "lithium-formaldehyd" compound the presence of which is claimed, more or less directly, by both the manufacturers and the analyst employed by the manufacturers. Although the chemical properties of lithium and formaldehyd indicate in themselves that the existence of such a compound would be most improbable, yet considerable time was spent in searching the chemical literature for such a

ANALYSIS

Sample of "Uriseptin" manufactured by the Gerdner-Barada Chemical Co., Chicago, Ill., was found to contain:

Specific Gravity at 15.5 C.....1.0718
Total Solids20.42 p.c.
Alcohol (Ethyl)..... 7.66 p.c.
Water (by Difference).....71.92 p.c.
Total Ash 1.46 p.c.
Lithium Oxide 0.50 p.c.
Formaldehyde 5.62 p.c.
Acidity 100 cc equals 6.4 cc Normal Alkali.
Sugars.....Present
Cough Grass Extract.....Present
Corn Silk Extract.....Present

The Total Solids consist mainly of the sugars and extract of corn silk and couch grass. The couch grass and corn silk extracts were determined by taste and smell in comparison with authentic samples of same products. The Lithium Oxide and the Formaldehyde are in combination in the Uriseptin and together represent 26.77 grains per liquid oz. I remain,

Yours very truly,

(Signed) DR. EDWD. GUDEMAN.

STATE OF ILLINOIS } ss.
COUNTY OF COOK }

Subscribed and sworn to before me this 13th day of May, 1905.

(Signed) PAUL E. BUEDEFELDT,
Notary Public.

URISEPTIN

FORMULA

(See analysis).

Each fluid ounce of Uriseptin contains Formaldehyde combined with Lithium dissolved in concentrated liquid extract of Corn Silk and Couch Grass, and will liberate a sufficient quantity of Formaldehyde (24 grains) to impregnate the daily secretion of urine (45-50 fluid ounces) to a 1-1000 solution.

PROPERTIES

Urinary Antiseptic, Uric Acid Solvent, Diuretic.

INDICATIONS

Diseases of the urinary tract and their complications—Nephritis, Pyelitis, Urethritis, Gonorrhea, Gleet, Cystitis, Bacteriuria, Uremia, Phosphaturia, Prostatitis. Diseases dependent on uric acid diathesis—Gout, Rheumatism, Calculus, Asthma and generally as an antiseptic and uric acid solvent.

DOSE

Tablespoonful night and morning, or one to two teaspoonfuls four times a day, preferably in hot water.

Reduced photographic reproduction of part of the Uriseptin label.

compound. Thorough search, however, demonstrated that no such compound, nor any that even approximated it, has been described.

The question then arose as to the form in which the lithium and the formaldehyd are present. The statements regarding its properties as a urinary antiseptic and the fact that the preparation is said to liberate formaldehyd slowly in the bladder point strongly to the presence of hexamethylenamin.

Tests¹ were applied to demonstrate whether the formaldehyd was present as a lithium compound, and if not, whether

1. These appear in the annual report for 1908 of the Chemical Laboratory of the American Medical Association; they were also published in full in Jour. Am. Chem. Soc., September, 1908; an outline of the analysis appeared in THE JOURNAL A. M. A., Aug. 29, 1908.

it existed in the form of hexamethylenamin. By these the presence of hexamethylenamin was proved and the absence of formaldehyd in other combinations demonstrated. This fact alone shows that the preparation is deliberately marketed under a false claim, and it shows further that the analysis on the label is worthless. The quantitative method of analysis demonstrated the presence of 5.51 gm. hexamethylenamin per 100 c.c. (25.15 gr. per fluidounce).

Besides the hexamethylenamin, Uriseptin contains lithium and a benzoate. Concerning the latter nothing is said in the analysis, whose worthlessness is again demonstrated. By quantitative methods Uriseptin was found to contain lithium and a benzoate in such proportions as would indicate that the lithium and the benzoate radicle exist as lithium benzoate. This fact is further indicated by the claims made for the preparation regarding its properties as a uric acid solvent, for which purpose lithium benzoate is often used. Again, the demonstration that the formaldehyd present is in combination as hexamethylenamin precluded any possible chemical combination between lithium and formaldehyd and adds another strong point in support of the conclusion that the lithium and benzoic acid are in combination as lithium benzoate.

CONCLUSION

By chemical analysis the active ingredients of Uriseptin are shown to be hexamethylenamin, approximately 5.5 gm. per 100 c.c. (about 25 gr. to each fluid ounce), and lithium benzoate, approximately 0.70 gm. per 100 c.c. (about 11 gr. to each fluid ounce), neither of which compounds is mentioned in the advertising matter on the label or in the so-called "analysis" on the label. The statements concerning the composition of Uriseptin are false and appear to be a deliberate attempt to mislead physicians.

COMMENT.—Investigation of the various "patent" and so-called "ethical proprietaries" advertised to the public and to the medical profession shows that those that have any value as therapeutic agents depend for that value on some well-known drug or drugs. Hence, while many proprietaries have some virtue, the ingredients which are of any value are so concealed by the coined and "near-scientific" names applied to them that these drugs are usually unrecognizable. The many and various acetanilid mixtures furnish examples of this class of proprietaries. And now we find another example in that much advertised nostrum, Uriseptin.

According to our chemists, the chief ingredients of Uriseptin are hexamethylenamin and lithium benzoate. Hexamethylenamin is a valuable so-called urinary antiseptic—probably one of the best we have. It is a pity that more physicians do not know the value of this drug in and of itself; it is a common ingredient of many proprietaries, and yet too seldom

prescribed under its true name. There is no reason for its being given in the form of a nostrum; it requires no skill in compounding, for it is best given in its powdered form, either in capsules or otherwise. So that, like acetanilid, the old argument of the nostrum men that the preparation needs skill in compounding will not hold. If a physician wants to prescribe hexamethylenamin let him prescribe it in its simplest and best form, and thus know exactly what he is giving.

Lithium benzoate also has its rightful place in the *materia medica*, but not hidden in a proprietary mixture to be prescribed unknowingly. It is hard to conceive of any one thing that operates more disastrously against scientific therapeutics than the vicious practice of marketing under proprietary names standard and valuable drugs, with their identity purposely concealed. Yet how frequently it is done. Well-known drugs of unquestioned worth are combined with those that are little known and of doubtful value, or more likely absolutely worthless, the mixture is put on the market under a high-sounding name and it is exploited through physicians as a panacea for all kinds of diseases.

In this, as in so many other instances, an "analysis" made to order is given to lend an air of apparent respectability and scientific standing to the preparation or to its exploiters, with the object, of course, of misleading physicians into thinking they are reading unbiased testimony. In addition, the "literature" accompanying the preparation is usually a jargon of pseudo-scientific verbiage put in to serve the same purpose as the analysis—that of catching the careless physician.

This state of affairs will continue just so long as the medical profession will tolerate it—and no longer. So long as members of our profession will prescribe proprietaries on the statements of their owners—as to both their composition and their therapeutic value—just so long will pseudochemical and pseudopharmaceutical companies fatten at the expense of the medical profession and to the detriment of the public health. (*From the Journal A. M. A., Aug. 29, 1908.*)

ZEMACOL

W. A. Puckner and W. S. Hilpert

Attention has been called to the vague and mysterious statements regarding a preparation called Zemacol, manufactured by the Norwich Pharmacal Co., Norwich, N. Y. Because of the unsatisfactory statements regarding the composition of the preparation, it was considered of sufficient interest to make an analysis¹ and determine its chemical constituents. Accordingly specimens of the preparation were obtained and examined.

The preparation Zemacol (Norwich Pharmacal Co.), as found on the market, is a thick, pink, mucilaginous liquid,

highly perfumed and having besides a suggestion of a phenolic odor. The bottle bears a label on which appear the following statements:

"A colloidal emollient containing extract of the rete mucosum of the healthy yearling lamb, combined with glycerin, salicylic acid and other antiseptic and aromatic oils. Useful in eczema and diseases of the integument where cell destruction is a prominent factor."

In the advertising matter the following claims are made:

"An advance in animal therapy. . . ."

" . . . increases the nutritive activity of the cell tissue of the skin through the absorbable extract of the rete mucosum."

" . . . clinical tests show its efficacy in both the so-called moist and dry eczematous conditions of all parts of the cutaneous surfaces."

" . . . rich in animal cells."

Since nothing could be found in the literature regarding the therapeutic action of an extract of the rete mucosum of the sheep, it was thought possible that the statements on the label were given simply as a vague and mysterious means of indicating the presence of wool-fat (lanolin), and tests were made to determine the presence or absence of the latter substance. A substance was isolated from Zemacol which had the physical properties of, and responded to some of the chemical tests for, wool-fat; but it was found in such small quantities as to indicate that it was not present as an active constituent. Since there are no definite tests for the detection of serums or animal extracts the presence or absence of these could not be demonstrated. Further examination indicated the presence of salicylic acid, a gummy material, having the properties of tragacanth and glycerin. It is practically free from inorganic matter. By distillation a small quantity of oil was isolated, which possesses the characteristic odor of the preparation.

Quantitative estimations¹ indicated the presence of the above-mentioned constituents in approximately the following quantities:

	Per Cent.
Gummy matter having the properties of tragacanth..	2.02
Salicylic acid	0.67
Matter having the general properties of wool-fat (lanolin) .	0.20
Glycerin	5.50
Volatile matter (water and alcohol).....	91.00
Aromatic oils and phenol-like bodies.....	Trace

The results of the above analysis, together with advertising matter regarding Zemacol, were submitted to Dr. William Allen Pusey, professor of dermatology and clinical dermatology, College of Physicians and Surgeons, Chicago, and past chairman of the Section on Dermatology of the American Medical Association, with the inquiry whether or not there was any record of investigations regarding the therapeutic value of an extract of the rete mucosum of the sheep and

1. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

whether in his opinion the claims made for Zemacol would be warranted. The following reply was received:

"So far as I know, nobody ever thought of or proposed the use of an extract of rete mucosum as a therapeutic agent and if a serious suggestion of that sort had ever been made I believe I would know it. I can conceive of no service which such an extract could render and I think the suggestion of it is a highly fantastic idea. From the analysis which you furnish I should say that the mixture described is substantially the ordinary 2 per cent. solution of tragacanth in glycerin and water with a little antiseptic added to keep it from decomposing. That is a commonly known lotion, modifications of which are used in practically every hospital as a hand lotion, and has no magical virtues whatever. Incidentally, I should think it cost, aside from the labor, about twenty cents a gallon to make it."—(*From The Journal A. M. A., May 14, 1910.*)

ZYME-OID

W. A. Puckner and W. S. Hilpert

Zyme-oid, manufactured by the Oxychlorine Chemical Company of Chicago, is advertised as "a powerful gastro-intestinal antiferment" which will "arrest and prevent bacterial fermentation in any portion of the intestinal tract, whether the media be acid or alkaline." These extravagant statements, like many others made regarding the properties of zyme-oid, are very similar in character to those made in the circulars accompanying the preparation oxychlorine, manufactured by the same firm and exposed in THE JOURNAL, July 6, 1907, page 54. (See page 82 of this book.)

As examples, several parallel statements help to show this similarity. The formula (?) of oxychlorine, as expounded on the label, is given in full, while in the case of zyme-oid only a hint is given as to its composition, but still sufficient to point to a similarity between the two:

OXYCHLORINE

"Oxychlorine is a tetraborate of sodium and potassium combined with oxychlorid of boron, thus: $(6\text{NaKB}_4\text{O}_7)\text{BOCl}_3$."

ZYME-OID

"Zyme-oid is a double borate salt."

In the matter of claims for chemical stability the two seem to be very closely allied:

Oxychlorine is "a stable salt under all conditions until brought in contact with sub-oxygenated organic matter."

Zyme-oid is "a product which is stable enough for keeping purposes, but which readily yields nascent oxygen in the presence of bacterial products."

The therapeutic properties attributed to these sister products are even more similar, for we find that:

"Oxychlorine is adapted to all morbid and abnormal fermentative alimentary states."

"Zyme-oid is a powerful gastrointestinal antiferment."

Many more statements and claims could be quoted to show a similarity between, amounting almost to an identity of, oxychlorine and zyme-oid.

With these facts in mind, the analysis of zyme-oid was undertaken in order to compare it with the previously examined oxychlorine and to determine to what extent the claims made for zyme-oid are upheld by its composition. The analysis indicated, as was expected, that zyme-oid is essentially the same as oxychlorine as is shown in the following, quoted from the report of the analysis of each:

ANALYSIS OF OXYCHLORINE		ANALYSIS OF ZYME-OID	
Potassium (K)	12.26	Potassium (K)	13.50
Sodium (Na)	8.20	Sodium (Na)	9.84
Chlorate (ClO_3)	25.32	Chlorate (ClO_3)	27.50
Nitrate (NO_3)	21.70	Nitrate (NO_3)	24.22
Boric acid anhydrid (B_2O_3)	18.63	Boric acid anhydrid (B_2O_3)	13.42
Water, calculated	13.29	Water, calculated	10.42

Assuming that the chlorate in zyme-oid is present as potassium chlorate and the nitrate is present as sodium nitrate, the figures obtained by analysis correspond to a mixture approximately as follows:

Potassium chlorate (KClO_3)	40.43
Sodium Nitrate (NaNO_3)	33.22
Potassium tetraborate ($\text{K}_2\text{B}_4\text{O}_7$)	1.60
Sodium tetraborate ($\text{Na}_2\text{B}_4\text{O}_7$)	3.31
Boric acid	21.14

From the results of the analysis and from the physical properties of zyme-oid we conclude, just as was done in the case of oxychlorine, that the preparation is not a definite chemical compound, but is essentially a mixture of alkali chlorate and nitrate with boric acid, probably produced by fusing together the constituents.

COMMENT

An examination of the claims made for the firm's two products, while, as already proved, disclosing many points of similarity, will also show one remarkable difference. We refer to the skilful indefiniteness that pervades the claims made for zyme-oid and which defies scientific refutation. This verbal obscurity is becoming daily more common in the "literature" of firms marketing nostrums. Since the Council has analyzed many of the much-advertised articles and proved the unreliability of the pseudo-scientific claims made for them, the more cautious of the nostrum-mongers have modified the matter descriptive of their products. They have called to their aid the principle that words were given to man to conceal thought rather than to express it, and they have reduced equivocation to a fine art. Wherever it was possible to put forward claims by implication rather than by expression this has been done.

To substantiate further the claims made by the manufacturers of zyme-oid for their product, a laboratory report is brought in evidence. This report, which is written more in the style of a peruna testimonial than that of a conservative scientific statement, fails to verify the claim that zyme-oid is a "double borate salt," but confines itself to a statement of its harmlessness and its anti-fermentative properties. In passing, it seems regrettable that scientific laboratories should, for a pecuniary consideration, be willing to jeopardize their reputations by lending their names to the furtherance of nostrum exploitation. The results of the examination of zyme-oid demonstrate that the product is no more worthy of the physician's consideration than its close, and equally worthless, relative, oxychlorine.—(*From The Journal A. M. A., May 23, 1908.*)

PART III

MISCELLANEOUS NOSTRUMS

ALLEOTONE

The formula of this preparation, given in the literature, reads as follows:

Alcoholici (Monatomic)	gr. 1/1000
Quininae Sulphatis	gr. 1/384
Ac. Sulph. Dll. (10 per cent.).....	gtt. 2½
Ac. Nitrici Dll. (10 per cent.).....	gtt. 1/77
Ac. Butanol-Diole	gr. 1/3
Tr. Ferri Chloridi	gtt. 1/26
Aquæ	gtt. xx

The formula is worthless. It can only mislead and mystify and the greater part of the literature is a mere jumble of inaccurate and mystifying statements. The various constituents of the preparation are taken up as follows. The advertising literature states:

"Monatomic Alcohol is one of the constituents of all nerve tissue: It is a product of the replacement of one atom of hydrogen of the hydrocarbons by their hydroxyl group H.O."

This information does not inform, since there is a vast number of monatomic alcohols and of every description. The assertion that the preparation "contains a salt" would be perfectly analogous and just as enlightening. Of "Ferri Chlo" the literature says:

"Ferri Chlo is found with all proteids and nucleins and herein acts as magnetic iron, aiding the play of the electrical travel."

The first assertion is untrue, for iron does not exist as chlorid in the cells of the body, but as some organic iron compound; neither is it found in all proteids, but principally in nucleoalbumins; and not all proteids contain nucleoalbumins. The assertion that the iron chlorid "acts as magnetic iron aiding the play of the electric travel" is nonsensical and on a par with the electrical belt method of exploitation, and suggests forcibly the class to which Alleotone belongs. The literature further states:

"Sulphuric and nitric acids act in removing hydrogen atoms and substitute atoms of the radical NO₂; that is, as hydrogen tranquilizes the speed of burning or oxidation, its action is substituted by the atom nitrogen which is energy itself, nitrogen being the base of all explosives."

Sulphuric acid is certainly an oxidizing agent and in virtue thereof removes hydrogen; but not in a solution whose concentration with respect to sulphuric acid is approxi-

mately only 0.82 per cent. The statement that nitrogen is the "base of all explosives" is another example of the methods of the promoters. As it is a well-known fact, however, that nitrogen itself is one of the least reactive of gaseous elements, little confidence can be placed in such remarks as "Nitrogen which is energy itself." Another mystifying term used in the formula is "Ac. Butanol-Dioic," which is a true chemical name, certainly, but it is one by which few physicians will recognize simple malic acid, an ordinary vegetable acid widely distributed in ripe fruits, such as apples and pears, and possessing the properties simply of a relatively weak organic acid. To describe it as exercising any potent influence "in the oxidation of the phosphorus as lecithin in the cell"—especially in the extremely low concentration in which it is stated to exist in Alleotone—is simply an absurd juggling with words. It is not much to be wondered at that the public should be taken in by pseudoscientific "literature;" but it is not only strange, it is discreditable to our profession, that among its members should be found any to accept such rubbish as the above quoted "literature" as information worth acting on—yet such there are, judging from the testimonials. —(*Abstracted from The Journal A. M. A., Feb. 1, 1908.*)

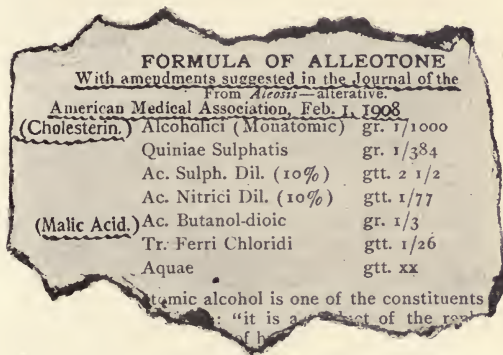
The Commercial Value of Adverse Criticism

For skilful attempts to convert a "knock" into a "boost," commend to us the discredited nostrum exploiter. The federal Food and Drugs Act did much to bring out this amiable quality—possibly developed it. While somewhat ancient history, it is well to call to mind what happened when the excise authorities insisted either that the "patent medicine" booze, Peruna, have some medicine put in it, or else that its manufacturers should go into the saloon business. Hartman at once got out a new label stating that "for a number of years a multitude of grateful friends" had urged "that Peruna be given a slight laxative quality." Thenceforth the innocents and near-innocents could get their perunaese jag only at the risk of a "bad quarter of an hour."

One of the latest attempts to wriggle out of an uncomfortable position, and at the same time make capital out of the wriggling, is seen in the advertising of Alleotone, a nostrum of the pseudoscientific type, which was shown up in *THE JOURNAL* of Feb. 1, 1908. The "formula" furnished is for the most part a jargon of misleading and mystifying nonsense and fulfils the same purpose as the voluble "patter" of the gentleman who is manipulating three shells and a pea at the county fair.

Every constituent of the "formula" was discussed in *THE JOURNAL* and the absurdities and impossibilities of each dwelt on. Did the manufacturers of Alleotone feel downcast over the exposure of their humbug? Not to judge by their advertising, for they write to physicians that "since the A. M. A.

analyzed Alleotone it has made great strides"—direction not specified. But the choicest piece of impudence, and one that but for its dishonesty would be laughable, is found in this portion of their advertising pamphlet:



In the original, the words "With amendments suggested in the Journal of the American Medical Association, Feb. 1, 1908," and also "(Cholesterin.)" and "(Malic Acid.)," which we have underscored in the illustration, are printed in red and have been added to the original "formula." Such are the uses of adversity.

What claim, if any, the exploiter of this nostrum—B. F. Copeland—has to medical or pharmaceutical knowledge, we do not know. In fact, to be consistent with the "ethics" of the nostrum business he need have none. Such knowledge, indeed, tends to hamper that free play of the imagination so necessary in this work. We understand that he has at different times been in charge of a stove factory and connected with a brokerage firm, which may exert some subtle influence in developing the ability to relieve suffering humanity, though the connection is not quite clear. One would imagine, however, that the keen business instinct, untrammelled by any considerations of conscience, which is exhibited in the exploitation of Alleotone, would in purely commercial pursuits have long since assured a competence.—(From *The Journal A. M. A.*, Oct. 17, 1908.)

BAUME ANALGÉSIQUE BENGUÉ

A physician writes asking for the formula of Baume Analgésique Bengué. This product is another of the "patent-medicine"—"ethical-proprietary" type of nostrums. In Great

Britain, it is advertised to the public as "A Wonderful Remedy for Rheumatism, Gout, Neuralgia." In this country, the exploiters find that space in cheap medical journals, reinforced by the aid of undiscriminating physicians, is a cheaper method of getting the stuff to the public. According to the statements of the manufacturers, Bengué's Analgesic Balm contains "menthol, salicylate of methyl and lanolin." When analyzed by the chemists of the British Medical Association, it was reported to have the following composition:

Menthol	18 per cent.
Methyl salicylate	20 per cent.
Lanolin, anhydrous	54 per cent.
A fat, apparently lard.....	8 per cent.

The estimated cost of the ingredients of a 50-cent tube of Bengué's Analgesic Balm, according to the British chemists, is $2\frac{1}{2}$ cents. Evidently this imposingly named product is practically a lanolin ointment containing oil of wintergreen and menthol. Similar products are catalogued by various pharmaceutical houses under various names and with varying degrees of frankness concerning their composition. Two firms give the medical profession full details regarding the composition of their products: The H. K. Mulford Company who sell it under the name "Methyl Salicylate Ointment," and the Pitman-Myers Co. who name their product "Anodyne Balm, P-M Co." Some other firms are not so frank. Parke, Davis & Co., for instance, sell "a combination of methyl salicylate and menthol with a lanolin base" under the name "Analgesic Balm," but do not give the quantities of the ingredients; Frederick Stearns & Co. sell "Analgesic Cream, Stearns" without giving the quantities; Nelson Baker & Co. sell "Anti-Neuralgic Ointment," and no quantities are given.—(*From The Journal A. M. A., Dec. 14, 1912.*)

ANTIDIABETICUM—BAUER

In Germany the makers of nostrums, their methods and their products are systematically exposed by the Society for the Suppression of Quackery (*Deutsche Gesellschaft zur Bekämpfung des Kurpfuschertums*) through its publication, the *Gesundheitslehrer*, under the aggressive editorship of Dr. Kantor.

Ludwig Bauer,¹ the manufacturer of "Antidiabeticum," inserted advertisements in daily papers asserting that for his "humanitarian efforts" the society "Opera Educativa pacifica" in Rome had granted him a diploma and placed his publications in the celebrated "Bibliotheca Marciazzii." Dr. Kantor.

1. According to a report in the *Allgemeine medizinische Central-Zeitung*, Jan. 6, 1912, p. 14.

editor of the *Gesundheitslehrer*, declared that, according to information received from the German Consulate in Rome, no such society existed there, and the library referred to probably was the Bibliotheca Marciana in Florence, which, like other public libraries, accepts all donations without critical examination. To offset these exposures, the promoter of Antidiabeticum published advertisements libeling Dr. Kantor and attacking the Society for Suppression of Quackery. This resulted in suits and counter-suits for libel between Dr. Kantor and the directors of the antiquackery society on the one side and the promoter of Antidiabeticum on the other. As a result of the recent combined trial, the court declared that Dr. Kantor's charges had been substantiated and the manufacturer of Antidiabeticum was fined 600 marks or forty days' imprisonment, while apparently on purely technical grounds Dr. Kantor was fined 50 marks or five days' imprisonment. The costs were divided between Bauer and Dr. Kantor in the proportion of 11 to 1. As Bauer in the course of the trial made further libelous charges, Dr. Kantor has lately started new proceedings against Bauer. The incessant persecution of Dr. Kantor was described in an editorial in THE JOURNAL, May 20, 1911, p. 1486.

The persecution of Dr. Kantor previously described shows no signs of abatement nor has Dr. Kantor given evidence of loss of courage. Some of the German medical societies have subscribed for the *Gesundheitslehrer* for each of their members. It is written in popular style for the masses and is a sharp and effective weapon for the campaign against quackery.—(From *The Journal A. M. A.*, April 27, 1912.)

ANTI-KAMNIA

The Nostrum and Its Method of Exploitation

Our readers will be interested to learn some of the remarkable properties which, according to the statements of the manufacturers, this Antikamnia possesses. We quote from the advertising literature:

The well-known nerve specialist (?), Dr. Harley, in an interview published in the *London Daily Express*, says: "I have treated more than one American for nervousness and 'brain fog' directly due to their incessant energy. I had a young man in here this morning who complained of headache 'in the back of the neck.' He was threatened with congestion of the brain, and seemed somewhat aggrieved when I told him he had been trying to do too much. I also treated a young American woman who, since her arrival in London, had apparently been living on Antikamnia tablets by the advice of her physician. It was the only thing, she said, which kept her 'braced up' for the strain of sight-seeing."

(Why did the young woman consult this Dr. Harley—for the drug habit?)

Note the following:

For the severe pains of rheumatism, dysmenorrhœa, neuralgia, gout, sciatica and lumbago, as well as for the lightning pains of locomotor ataxia, there can be no quicker and more lasting relief obtained than by the administration of Antikamnia and codeine tablets.

Imagine an intelligent physician trying to treat the diseases mentioned below with the various impotent means of the pharmacopeia and physiological therapy when he might depend on Antikamnia! We quote again:

As a Pain Reliever.—In headache, cephalalgia, hemicrania, migraine [some other words might have been thrown in so as still more to emphasize the headache business], myalgia, coryza, la grippe and its sequæ, the lightning pains of locomotor ataxia and all pains due to irregular menstruation.

As an Anodyne or Sedative.—In alcoholic delirium, indigestion, cardialgia, gastralgia, dyspepsia, hysteria, insomnia, inebriety, car-sickness, sea-sickness, worry and sight-seer's fatigue.

As an Antipyretic.—In typhoid, intermittent, puerperal and malarial fevers, bronchitis, pneumonia, pleurisy, and tuberculosis.

As an Anti-Neuralgic.—In acute or chronic neuralgia, facial neuralgia, earache, pain about the teeth, angina pectoris, neurasthenia, palpitation, pains of locomotor ataxia and sciatica.

As an Anti-Rheumatic.—In acute or chronic rheumatism and gout, fever and pleurodynia.

There is no remedy so useful and attended with such satisfactory results as Antikamnia tablets in the treatment of melancholia with vasomotor disturbances, anemic headaches, emotional distress, and active delusions of apprehension and distrust. They increase arterial tension and promote digestion, as well as being particularly serviceable in relieving the persistent headache which accompanies nervousness.

In neurasthenia, in mild hysteroid affections, and in the various neuralgias, particularly ovarian, and in the nervous tremor so often seen in confirmed drunkards, they are of peculiar service. In angina pectoris this drug has a beneficial action; it relieves the pain and distress in many cases, even when amyl nitrite and nitroglycerin have failed entirely. In pseudo-angina, frequently observed in hysterical women, its action is all that can be desired.

Patients who suffer from irritable, weak, or palpitating heart, needing at times a pain reliever, can take Antikamnia tablets, without untoward after-effects; knowing that the heart is being fortified. In delirium tremens, they relieve when there are great restlessness, insomnia, the general lowering of the nerve power.

Only the vivid picture of a crisis in locomotor ataxia or the agony of a true migraine, can impress the observer with the full value of this pain reliever.

The following testimonials are from physicians:

Dr. Caleb Lyon, an old Bellevue practitioner, in referring to antikamnia and codein tablets, says:

In my practice they accompany the maid from her virgin couch to her lying-in chamber, assuaging the perplexities of maidenhood and easing the trials of maternity with most gratifying results. I earnestly hope that the proprietors of this valuable remedial agent will keep it up to its present standard of purity and excellence.

Dr. Walter M. Fleming, A.M., M.D., New York City, writes:

With all the experience of more than a quarter of a century, in the treatment of winter cough, and all its complications of laryngeal, bronchial and pulmonary irritability, dyspnea, asthmatic spasms, and finally whooping cough—usually the most persistent and tenacious of all these membranous maladies—I find no one remedy more strongly indicated, or which yields more prompt and satisfactory results than Antikamnia and heroin tablets, com-

posed of Antikamnia 5 grains and heroin hydrochloride 1/12 grain. . . . Result: a prompt and efficient expectorant, at once relaxing the harsh and rasping cough, releasing the tenacious, sticky and gelatinous mucus which is soon readily expectorated, while the soothing influence of the Antikamnia is at once manifested, greatly to the comfort and contentment of the patient. . . . Independent of the fact of the direct applicability of this remedy to the various membranous maladies of the lungs, bronchi, fauces and nose, it proves also, an invariable remedy in all febrile cases where anodyne is required. This, together with its analgesic and antipyretic merits, eminently qualify this combination for a responsive agent in the treatment of nearly all the numerous febrile attacks characterized by pain, nervousness, insomnia and their accompanying symptoms.

"Antikamnia and Quinin"

If there is any virtue in the particular combination known as "Antikamnia," a physician prescribing the tablets supposed to contain combinations of "Antikamnia" and some other drugs should have some guarantee that they contain those remedies. Take, for example, the tablets advertised and sold as "Antikamnia and quinin." It might reasonably be supposed that the tablets contained the combination known as "Antikamnia"; this, however, seems not to be the case. Previous analyses, as published¹ by us, have shown that Antikamnia contains approximately 20 per cent. of sodium bicarbonate, yet two chemists, working separately, have been unable to find this ingredient in the tablets advertised and sold as "Antikamnia and quinin." Are we to understand, therefore, that the manufacturers do not consider the bicarbonate of sodium of importance in their preparation, Antikamnia; or are they guilty of misrepresentation and of misleading physicians in omitting this constituent from their product Antikamnia when that is combined with the bisulphate of quinin? The above statement regarding the omission of bicarbonate of sodium from the quinin combination may be verified by any physician who desires to make a few simple chemical tests—carbonic acid is not given off when the tablets are treated with dilute acids, as would be the case if sodium bicarbonate were present. Further, while the ordinary Antikamnia contains no constituent not soluble either in water or in chloroform, and while quinin bisulphate is readily soluble in water, the tablets said to contain Antikamnia and quinin bisulphate, when treated successively with water and with chloroform, leave a residue of more than 18 per cent.

One of the chemists who analyzed the preparation for us, in commenting on this in a letter, says: "The matter which is insoluble in water, alcohol or in chloroform, i. e., the substance which is neither 'Antikamnia' nor quinin bisulphate, amounts to more than 18 per cent. in 'Antikamnia and quinin bisulphate tablets.' The tablets weigh close to five grains and are said to contain 2.5 grains each of Antikamnia and quinin

1. THE JOURNAL A. M. A., June 3, 1905; reproduced on page 9 of this edition.

bisulphate. How is this possible when each tablet contains almost one grain of foreign substance (chiefly starch)?"

Further comment is superfluous. We have presented facts to our readers and leave them to draw their own conclusions. — (*From The Journal A. M. A., July 1, 1905.*)

Adding Insult to Injury

When the Council on Pharmacy and Chemistry began its work of independent and scientific investigation of proprietary preparations, some of the questions asked were:

"What guarantee has the medical profession that the formulas of these proprietary medicines are not changed at the will of the manufacturers? How can the physician who confidently prescribes them for his patients know that the preparation which he orders to-day is the same as that which was furnished him last year, or which may be given him next year, under the same name?"

At once a wail, as of injured innocence, went up from countless venders of proprietary medicines, who replied with one voice:

"The honor and reputation of the proprietors and manufacturers is sufficient guarantee of the stability and permanence of these preparations."

So vehement were their protestations and so well simulated were their declarations of Pecksniffian virtue that many physicians were deceived thereby. Many medical journals (whose views were, perhaps, slightly biased by the consideration of fat advertising contracts) also were apparently convinced. But the fact was overlooked that guarantees based on honor are of value only in proportion to the amount and quality of honor possessed by the guarantors.

The enactment of the national Food and Drugs Act is bringing many things to light. Some of them are interesting, some would be amusing were they not so utterly despicable. Among other things, it has furnished a demonstration of the value of the "honorable assurances" of nostrum venders.

The nostrum Antikamnia has pointed many a moral in the campaign in the last two years. It was hardly to be hoped that it would deliberately furnish a demonstration of the utter lack of honesty on the part of a certain class of proprietary manufacturers. Yet, relying apparently on the ignorance of the public and the long-continued lethargy of the medical profession, its promoters have, in the last few weeks, unwittingly convicted and stultified themselves. When the pure food law went into effect, the proprietors of this mixture found themselves in a sad dilemma; if they labeled their mixture in accordance with the provisions of the law they would have to admit that it contained acetanilid and that the charges against them were true. Failing to comply with the law, they must go out of business. The latter alternative was not to be thought of. The profits gained by selling, with the aid of

careless or ignorant physicians, a five- or ten-cent mixture for \$1 were too great to be surrendered without a struggle. The same brilliant intellect, perhaps, that first saw the commercial possibilities in the business, said: "Change the formula. Phenacetin is about as cheap as acetanilid; the patent has just expired and consequently we can get it at a low price. Let us substitute phenacetin for acetanilid."

As a result the profession is treated to an edifying exhibition of virtue triumphant, a wolf so completely covered by the harmless coat of a sheep that he flatters himself that his wolfish nature is completely concealed. No longer are skulls and skeletons sent out in calendar form as grinning advance agents to be displayed in every doctor's office, but instead a beautiful domestic scene, showing a convalescent child nestling in the arms of its mother. The familiar "AK," however, as usual, is in the lower right-hand corner. And what a change in labels! No longer is Antikamnia a chemical entity, but the label now openly but ingenuously declares that "Antikamnia tablets in this original package contain 350 grains of acetphenetidin, U. S. P., per ounce. Guaranteed under the Food and Drugs Act, June 30, 1906. Serial No. 10." While, below, as an entirely unnecessary display of conformity to the Pure Food Act, appears this statement:

The Antikamnia tablets in this original ounce package contain no acetanilid, antifebrin, antipyrin, alcohol, morphin, opium, codeln, heroin, cocain, alpha- or beta-eucain, arsenic, strychnin, chloroform, cannabis indica or chloral hydrate.

Truly, Satan is appearing as an angel of light. What a gratification it is to the long exploited profession to know that Antikamnia contains no alcohol, no chloroform, no cannabis indica, no chloral hydrate. How unfortunate that this spontaneous display of confidence is not carried far enough to inform the profession of the ingredients, aside from phenacetin, contained in the mixture!

The label is an admission that the nostrum does not contain what it was never supposed to contain, with the exception of acetanilid, and is directly an attempt to conceal the real contents. The proprietors know that the dear public, whose "pains, headaches, neuralgias, women's aches and ills, grippal neuroses, nervousness, insomnia, rheumatism, lightning pains of locomotor ataxia, sciatica, etc.," they are longing to assuage, will not know that acetphenetidin is the official designation for what is popularly known as phenacetin, and that this dangerous product is found in the new mixture in the proportion of approximately 4 grains to a 5-grain tablet. Evidently they also presume considerably on the ignorance of our profession, or why should they make the brazen statement that four grains of phenacetin is the "most reliable remedy" for the long list of diseases enumerated on their advertising calendar?

When the formula for which such wonderful virtues were claimed was suddenly thrown overboard, was the medical profession, which by its short-sighted patronage had built up this business, notified in any way of the change? Search the new advertising matter of this nostrum from beginning to end and you will not find one word to show that "The Antikamnia tablets in this original ounce package" differ in the slightest particular from those sold to the profession and the public for

Antikamnia Tablets

(1/2 Ounce Package)

Adult Dose: Two every two or three hours.

FOR HEADACHES

NEURALGIAS, LA GRIPE, PAIN AND FEVER

ANTIKAMNIA TABLET

(1/2 Ounce)

PRESCRIPTIONS

FOR PAIN—(No matter where)
 Dose—Two tablets.
COLD—(Type attack—(La Grippe)
 Dose—Two every three hours.
FEVER—(Febrile Condition)
 Dose—One every two hours.
BRUISE—(All kinds)
 Dose—Two, repeat two hours.
HEAT EFFECTS—(Bleeding)
 Dose—Two every three hours.
RELAXATION—(From Worry)
 Dose—One every two hours.
NEURALGIA—(All kinds)
 Dose—One every two hours.
STOMACH—(All kinds)
 Dose—One every two hours.
SHOOPER'S or SIGHTSEER'S HEADACHE
 Dose—Two every three hours.



LIGHT ON PAIN

For Samples and Literature, Address
**THE ANTIKAMNIA
 CHEMICAL CO.,**
 St. Louis, U. S. A.

ANTIKAMNIA-CODEINE TABLET

(1/2 Ounce)

PRESCRIPTIONS

FOR COUGHS AND COLDS
 Dose—One dissolved in sugar.
BOWEL TROUBLES—(Diarrhea and Pain)
 Dose—One every two hours.
STOMACH—(All kinds)
 Dose—One every two hours.
NEURALGIA—(All kinds)
 Dose—One every two hours.
STOMACH—(All kinds)
 Dose—One every two hours.
STOMACH—(All kinds)
 Dose—One every two hours.

Antikamnia Tablets
 THE name itself suggests what Antikamnia Tablets are, and what their essential characteristics are—Anti (Greek Anti). Opposed to—and Kamnia (Greek Kardia). Pain—then we have "ANTIKAMNIA" which means "OPPOSED TO PAIN," a remedy to relieve pain and suffering. The greatest Antikamnia Tablets always bear the AK monogram and are, on account of their convenience and accuracy, recognized as the most approved form for taking this remedy.
 —The Journal of Medicine.

ANTIKAMNIA & CODEINE TABLETS

FOR WOMEN'S ACHES AND ILLS

FOR SALE AT ALL DRUGGISTS

A reduced reproduction of a full-page Antikamnia advertisement appearing in the New York *World Almanac*, 1911.

years past. This being true (and the statements of the promoters themselves are our authority for it), what remains of the pratings of "honor" and the "guarantee of the manufacturers"? Has a physician no right to know when a change is made in the formula of a preparation which he has been prescribing for years?

What assurance has the profession that, at any moment, a cheaper or more dangerous drug may not be substituted for "acetphenetidin" if thereby the law can be evaded or the profits of the delectable business enhanced?

How can any conscientious physician prescribe, for those who confide their lives to his care, a preparation the stability of the formula of which must depend absolutely on its owner's whim?

How can a physician with the slightest sense of responsibility to his patients allow his office to be used as a free advertising bureau for a preparation manifestly founded and developed on deceit and misrepresentation?

How can any medical journal, except those avowedly and unblushingly seeking to aid the nostrum maker to exploit the profession, whose interests they claim to serve, continue to carry the deceptive and misleading advertisement of a twice exposed fraud?

How can any physician with a particle of self-respect or manhood continue to support, by subscription or contribution, any medical journal which, by accepting such advertising, allies itself with the army of deceit and chicanery?—(*Abstracted from The Journal A. M. A., Jan. 26, 1907.*)

Still Further Duplicity

When the Food and Drugs Act went into effect the manufacturers of this preparation, instead of continuing to put out the same mixture as they had been doing radically changed the composition by substituting acetphenetidin (phenacetin) for acetanilid. By doing this the company avoided the disagreeable necessity for acknowledging on the label that the nostrum contained acetanilid, as was shown by the analysis published in *THE JOURNAL*, June 3, 1905. In addition to stating that the package of Antikamnia contained acetphenetidin, the company also stated that it contained no "acetanilid, antifebrin, antipyrin, alcohol, morphin, opium, codein, heroin, cocain, strychnin, chloroform, cannabis indica, or chloral hydrate." Knowing that the nostrum was being advertised in Great Britain and Canada as well as in the United States, *THE JOURNAL* obtained some Antikamnia from London, and it was analyzed in the Association's laboratory. As was suspected, the analysis showed that Antikamnia as sold abroad has the same composition now as it had in the United States before the Food and Drugs Act went into force, viz.: Acetanilid, 67.75 per cent.; caffein, 4.88 per cent., and citric acid and sodium bicarbonate, by difference, 25.36 per cent. This corresponds with the analysis previously made and published in *THE JOURNAL*, June 3, 1905. The Antikamnia on the market in this country was also analyzed and it was found to contain: acetphenetidin (phenacetin), 72.05 per cent.; caffein, 13.95 per cent.; citric acid and sodium bicarbonate, 14 per cent. The preparation sold as "Antikamnia and Quinin" was also analyzed, and it was found that starch had been substituted for the bicarbonate of sodium which is found in the Antikamnia itself. The details of the analyses are given with the following comments: "The above are brief statements of bald facts.

Two of these should be emphasized: (1) When the Food and Drugs Act went into force, January, 1907, the manufacturers of Antikamnia, rather than acknowledge the truth of the past—we can imagine no other reason—materially and radically changed the composition of their preparation, and did this without notifying the medical profession or intimating in any way, so far as we can learn, that such a change had been made. We have no doubt they believed they had a right to do as they pleased with their own; that it was nobody's business but theirs what they did with their own preparation, or how they changed it. As they never had told physicians what it contained, there was no reason why they should do so now. This is logical, and we cannot blame the manufacturers so long as the medical profession is willing to be humbugged. (2) For the same reason, we presume, they claim that they have a right to continue to use acetanilid in the product for the foreign market. The Food and Drugs Act applies only to the United States, of course, and acetanilid being cheaper, why not use it? What is the difference if one is more dangerous than the other? The fact that the Antikamnia sold abroad differs from that sold in this country some may say is of no special interest to us. Still this fact is worth noting: The dose of acetphenetidin—phenacetin—($7\frac{1}{2}$ grains) is nearly double that of acetanilid (4 grains): one becoming accustomed to a certain dosage of the nostrum as sold in this country might, while abroad, unwittingly be led to take a double dose of acetanilid.—(*Abstracted from The Journal A. M. A., Feb. 8, 1908.*)

Samples, Form Letters and "Prescriptions" Sent to the Laity

To the Editor:—The enclosed "literature" is being sent broadcast to the laity by the Antikamnia people and still a great many of the physicians throughout the country are prescribing the preparation thus advertised. Will the time ever come when the medical fraternity will awaken to the fact that it has been humbugged by a great many manufacturing concerns? I certainly hope so.

J. W. DUVAL, M.D., Wichita Falls, Texas.

COMMENT:—The "literature" referred to by our correspondent consists of a form letter and a small pamphlet. The letter was similar to the one reproduced on page 175.

The pamphlet accompanying the letter is entitled "Practical Prescriptions," and contains a list of diseases and morbid states arranged alphabetically from "Alcoholism," "Asthma" and "Backache," to "Wind," "Women's Pains" and "Worry." For the one hundred and twenty-two conditions listed, "Antikamnia," "Antikamnia and Codein" or "Laxative Antikamnia and Quinin" are prescribed, demonstrating that the "prescriptions" are more "practical" than scientific.

In many respects the methods of the proprietors of "head-ache powders" and "anti-pain pills" are less offensive to one's sense of professional decency than the course pursued by the Antikamnia people. The former have at least never recommended their products as "ethical proprietaries;" they have not used medical men as their unpaid agents; the claims made for their products have been no more exaggerated; and they have not found it necessary, from the requirements of the Food and Drugs Act, to substitute acetphenetidin for acetanilid to avoid giving the lie to their former claims.


FRANK A. RUPP, PRES. & TREAS.
JOHN W. COK, SECRETARY

The Antikamnia Chemical Co.

—INCORPORATED—

Laboratories and Home Offices

1622-1624 PINE ST., ST. LOUIS, MO.



Characteristics of Antikamnia Tablets

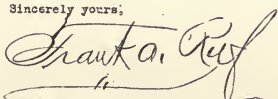
SAFETY—CERTAINTY—CELERITY

St. Louis, U. S. A.

April Twentieth
1910

Dear Mr. ~~XXXXXX~~—

Do you ever suffer pain? If so,
try Antikamnia Tablets! Sample enclosed.
Your druggist will supply them in any quan-
tity (10 cents worth or more), also in our
"Vest-Pocket-Boxes", as below.

Sincerely yours,


As to the query propounded by our correspondent: We are optimistic enough to believe that the time he longs for is already here. The fact that the proprietors of nostrums of the Antikamnia type are finding it necessary to advertise to the laity is, in itself, evidence of the diminishing demand for such products on the part of the medical profession.—(From *The Journal A. M. A.*, April 18, 1908.)

Antikamnia in America and Great Britain

The following letter from the Antikamnia Chemical Com-
pany to THE JOURNAL was received about August 1, 1912:

"You have at various times represented in your JOURNAL that the Antikamnia sold in foreign countries, particularly in Great Britain, has a different formula from the Antikamnia sold in the United States, and you have also published alleged formulas of each to show wherein they are supposed to differ.

"We hereby respectfully notify you that the Antikamnia formula is the same for all countries, and the publication of any statements to the effect that the formula of Antikamnia is different in Great Britain, or any other foreign country, from that sold in the United States is a libel, and will be prosecuted as such."

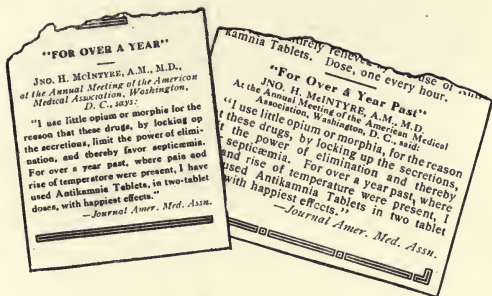
On the receipt of this a letter was written to a correspondent in London requesting him to purchase in the open market a package of Antikamnia. This was done and the original sealed package reached the Association's laboratory a few days ago. Careful analysis of this specimen shows it to contain acetanilid but no acetphenetidin, while the Antikamnia sold in the United States contains acetphenetidin but no acetanilid. The company's protest to the contrary notwithstanding, the formula of some Antikamnia, at least, is still different in Great Britain from that sold in the United States. It is possible, of course, that some time in the future the composition of every package of this nostrum on sale in the United Kingdom will be similar to that of every package sold in the United States. It is even possible that "Antikamnia & Quinin" tablets will—or do—actually consist of quinin and the mixture called Antikamnia—although, as THE JOURNAL has shown, this has not been the case in the past. Since the patent expired on acetphenetidin, this drug has become so cheap—it can be bought at wholesale for less than 6 cents an ounce—that, commercially, it must make very little difference whether acetanilid or acetphenetidin is used in the manufacture of Antikamnia. But the question arises: Have our British confrères been notified of the change in formula? A careful study of the Antikamnia advertisements in English medical journals shows that the British medical profession has been given no more consideration by this concern than was the American medical profession when the change in composition was made on this side. But then why should it be? Physicians, British or American, who are addicted to the prescribing of secret proprietaries such as Antikamnia have little need of formulas—"Theirs not to reason why!" The medical profession on both sides of the Atlantic has never known the exact composition of Antikamnia and does not know it now. Physicians who call for preparations of the Antikamnia type are prescribing names, not drugs.—(*From The Journal, A. M. A., Oct. 26, 1912.*)

Again, Antikamnia

In season and out of season, THE JOURNAL has exposed the Antikamnia fraud until it would seem that its readers would become weary of the very name. There is nothing new to say about this dangerous stuff, and yet the number of inquiries indicates that thousands of THE JOURNAL'S readers do not

know of the previous exposures. More than fifteen years ago THE JOURNAL ceased carrying the Antikamnia advertisement; more than ten years ago it notified its readers that the nostrum was being advertised to the public by means of circular letters; more than six years ago it proved that, when the Food and Drugs Act went into effect, acetphenetidin had been substituted for acetanilid in Antikamnia evidently in order that the presence of the older drug, of whose dangers the public had been made aware might not have to be admitted; more than five years ago THE JOURNAL showed that the Antikamnia sold in the British Isles still contained acetanilid, and as late as last October it verified this statement although threatened with prosecution for libel by the Antikamnia Chemical Company.

Yet, in spite of all these exposures, not a week passes that we do not receive one or more letters calling attention to the Antikamnia fraud. Most of these letters deal with one, or



Reproductions of portions of pages in the booklets sent out by the Antikamnia Chemical Company to physicians (on the right), and laymen (on the left), respectively. Those who do not realize the character of the Antikamnia concern naturally imagine that the quotation here given from THE JOURNAL is a comparatively recent one. Notice that no dates are given. As a matter of fact, it is twenty-two years old. Dr. McIntyre, who wrote it, has been dead eleven years.

more, of three points: first, the fact that the stuff is being advertised to the public by means of circular letters and that sample "vest-pocket boxes" of this dangerous drug are being sent through the mail to laymen; second, that Antikamnia is being advertised in newspapers, and, third, that in the booklets sent out by the Antikamnia Chemical Company both to the medical profession and to the public, a paragraph is quoted from an article by Dr. John H. McIntyre that appeared in THE JOURNAL.

The first two points have already been discussed so frequently that it seems hardly worth while to take them up

again in detail, though it might be said that the medical profession has at last become so familiar with this wide-spread humbug that the Antikamnia Chemical Company has finally gone over body and soul to the newspapers. So far as we can learn only three publications professing to be medical journals still carry the Antikamnia advertisement. These three are:

*Southern Practitioner
Therapeutic Record*

Pacific Medical Journal

As is usual in such cases, the British medical journals are not so particular, and we still find Antikamnia advertised in:

*Medical Press and Circular
Glasgow Medical Journal
Journal Tropical Medicine and Hygiene
Dublin Journal Medical Science*

*Lancet
Canada Lancet
Practitioner*



Photographic reproductions of two typical Antikamnia advertisements now appearing in newspapers all over the country. These tablets are advertised in various newspapers as being "safe" and neither "depressant" nor "habit-forming"—three separate and distinct falsehoods.

The reproduction of the McIntyre quotation is evidently adopted by the Antikamnia concern as a means of "playing even" with THE JOURNAL for the unpleasant things it has said about it. In quoting Dr. McIntyre, the Antikamnia Chemical Company carefully avoids giving the date on which the article appeared. As a matter of fact, the article was printed in THE JOURNAL over twenty years ago (July 4, 1891), and Dr. McIntyre himself has been dead for eleven years. Presumably, however, the Antikamnia Chemical Company will continue to mislead, either directly or by inference, until the end of the chapter.—(From *The Journal A. M. A.*, April 12, 1913.)

ASPIRO-LITHINE

Aspiro-lithine is another comparatively new example of the custom of proprietary manufacturers in putting forward old drugs under a new name and with them bidding for the favor

of physicians. An inquiry has been received concerning this mixture. It is prepared by McKesson & Robbins and is said to contain in each tablet 5 grains of acetylsalicylic acid (aspirin) and $2\frac{1}{2}$ grains of acid citro-tartrate of lithium. It is recommended for all the purposes for which acetylsalicylic acid is commonly used, and on account of the lithium added is claimed to have much greater virtues than either of these drugs alone or of both combined.

We had hoped that the time had passed for reputable houses to employ such time-worn methods, but probably they will not stop so long as physicians encourage them by continuing to use such preparations. Acetylsalicylic acid is a good drug, whose value is pretty well known. It is further known that lithium salts do not possess any great medicinal virtue. Just what acid citro-tartrate of lithium may be is hard to tell, for chemistries do not recognize such a substance. The name presumably is intended to hide the real nature of the preparation.

But if there be any advantage in combining lithium salts with acetylsalicylic acid in a prescription, it is a simple proposition and requires no great skill, either on the part of the physician who writes the prescription or on the part of the druggist who puts it up, and such mixtures as aspiro-lithine, with the exaggerated claims made for them, should be avoided in the physician's prescribing.—(*From The Journal A. M. A., May 28, 1910.*)

BENETOL

During the last few months sensational and ridiculously misleading articles have appeared in the daily press regarding a proprietary preparation called Benetol. The nostrum seems to be advertised by the direct method only to physicians; to the public it goes via the special newspaper article route, as a "marvelous medical discovery." It is but fair to say in this connection, that the newspapers which have published these articles seem to have done so in good faith and in total ignorance of the fact that they were giving the Benetol Company a large amount of free advertising. It is evident that the press agent's work was well done.

Here are a few claims that are made, either to the medical profession or to the public, for Benetol:

"A new germicidal antiseptic marvel."

"The only safe germicidal antiseptic."

"It will cure any germ trouble it can reach."

"Is beneficial rather than dangerous in overdoses."

"The only germicide that can follow and kill germs."

"A laboratory product of the University of Minnesota."

"A chemical which destroys the germs of tuberculosis, typhoid and cancer."

"Ten drops allowed to remain a short time in a gallon of infected water will make the water not only safe to drink, but will make it beneficial as a medicated water."

An inquiry at the War Department, regarding the veracity of the statements given in the exploitation of Benetol, brought the following statement from the office of the surgeon-general:

"As you have surmised, there is no foundation of truth in the statement which you inclose with reference to the use of 'Benetol' by the medical department of the Army. This office has not authorized the purchase of any 'Benetol' nor has it investigated its merits."

Nor was the army alone the only department of the government that was credited with waxing enthusiastic over Carel's nostrum. It was claimed that the stuff had been tested in the



Greatly reduced photographic reproduction of a part of a full-page newspaper write-up of Benetol. Under the portrait of the "inventor" of Benetol appears the statement "Prof. Herbert Charles von Fuerstenburg Carel, of the University of Minnesota, the inventor of Benetol." This write-up appeared in the *Philadelphia North American*, a paper that treats "patent medicine" fakery with scant courtesy. It was the appearance of such an article in a paper of this type that caused us to investigate the method by which the exploiters of Benetol got their product into the newspapers in this form.

navy. An inquiry addressed to the Bureau of Medicine and Surgery of the Department of the Navy brought the following statement:

"This Bureau has never issued 'Benetol' for use in the Navy and does not contemplate doing so, having no knowledge of, nor interest in, this preparation."

In view of the claims that have been made for Benetol its composition is a matter of interest. What is this marvelous germicide; this "chemical," which destroys the germ of cancer; this wonderful discovery which "for six years Prof. Carel toiled night and day" to produce; this potent typhoid destroyer, 10 drops of which in a gallon of infected water will make the water not only safe but beneficial; what is this new medical wonder? This inquiry was referred to the director of the Association's Chemical Laboratory and secretary of the Council on Pharmacy and Chemistry, who replied:

"Chemical examination of Benetol shows that it is a solution of alpha-naphtol containing about 18 gm. of the substance in 100 c.c. The solvent appears to consist of water, glycerin and soap. Alpha-naphtol is a well-known substance, closely related to, but not identical with, beta-naphtol which is official in the United States Pharmacopeia. The claim made in the advertising matter for Benetol, that it is a newly discovered compound, is absurd. It is not a chemical compound but a simple solution of the well-known substance alpha-naphtol in the still better-known substances, glycerin, soap and water."—(*From The Journal A. M. A., April 15, 1911.*)

BROMIDIA

Deaths From the Use of the Remedy

Dr. Horatio C. Wood, Jr., Philadelphia, writes:

"One of the deleterious results of using proprietary mixtures even when the formula is known is that the physician gets in the habit of thinking of the mixture as a remedial entity, instead of a combination of active ingredients, and is thereby led to use this combination in cases in which he would have avoided the individual drugs making up the mixture. The following item is taken from the Philadelphia *Evening Telegraph*, February 13, and also appeared in several New York papers; it preaches an eloquent but pathetic sermon on this subject:

Within an hour after his father, a Brooklyn physician, had given him a dose of bromid, H. G. P., a prodigal son, died yesterday at his father's home in Brooklyn. Two years ago, when he appeared to have sown his wild oats, the father made him superintendent of his country place, near Grants Mills, Delaware County. A week ago the son left his place, and at 1 o'clock yesterday morning appeared at his father's Brooklyn home. He was nervous, and at 9 a. m. begged for a sedative.

"I prescribed the usual quantity of bromidia," the young man's father told a reporter. "He was weak and had suffered from weak heart and kidney trouble for some time."

An hour later the father found the son dying and administered restoratives, but to no avail.

"In an article published in THE JOURNAL, June 10, 1905, page 1836, I quoted in regard to bromidia the remarkable statement of the manufacturers that it is "the safest hypnotic known,"

and questioned how the addition of potassium bromid and tincture of hyoscyamus could overcome the depressant action of the chloral, which is the active ingredient of this nostrum. If the physician had thought of his bromidia as a solution of chloral rather than as a solution of bromid he probably would have hesitated before using it in an alcoholic case."

The following appeared in the Bangor (Me.) *Commercial*, March 8:

Frank H. Perkins, a newspaper reporter of Plymouth, Mass. was found dead in a room in a hotel in Augusta, Sunday. The coroner stated that death was due to bromidia poisoning, but whether the drug was taken accidentally or with suicidal intent is a matter of conjecture. Perkins was a newspaper correspondent in Plymouth for 22 years. He left a few weeks ago to accept a position on the city desk of the *Kennebec Journal*. While a resident of Plymouth, he was correspondent for a number of Boston papers, and in recent years was connected with the *Plymouth Observer*. He was 55 years old and unmarried. It is understood that his nearest surviving relative is an aunt in Middleboro.

The above item was sent to Dr. O. C. S. Davies, Augusta, with a request that he send us a more complete report of the case. In his reply Dr. Davies stated that Mr. Perkins had at one time been an inmate of an inebriates' home and that he had gone to Augusta to do newspaper work, but had been unable to hold the position because of his condition. Dr. Davies in his letter, says: "When the body was found, there were eleven one-ounce bromidia bottles about the room or on his person. Nine were entirely empty and the other two were about half full. None of these bottles indicated that they had been purchased on a physician's prescription, only the druggist's label marked 'bromidia' being on them."—(*From The Journal A. M. A., April 21, 1906.*)

BROMIN-IODIN COMPOUND

The Life-History of a Nostrum

A correspondent writes for information concerning a remedy known as Bromin-Iodin Comp., which he says is manufactured by the Bromin-Iodin Chemical Company, formerly of Binghamton, N. Y., but now located in San Diego, California. In THE JOURNAL for Feb. 5, 1898, appeared an article by Dr. C. W. Ingraham, Binghamton, N. Y., entitled "Five Years' Successful Experience with a Special Mode of Treating Pulmonary Tuberculosis." This "special mode" of treatment consisted in using what Dr. Ingraham called "bromin-iodin compound," which he said had the following formula:

Iodin	gr. 1/2
Bromin	gr. 1/14
Phosphorus	gr. 1/100
Thymol	gr. 2/3
Menthol	gr. 2/3
Sterilized oil.....	fl. dr. 1

This "hypodermic treatment of phthisis" was widely advertised in the late nineties by the Bromin-Iodin Chemical Co., Binghamton, N. Y., and was but one of the innumerable "treatments" for pulmonary tuberculosis that have risen, had their day and, more or less gracefully, retired. It was first sold "to physicians only" for hypodermic administration. In 1906, however, physicians were told by the company that "if we find it impossible to secure your cooperation . . . we will be compelled to do business with the druggists in your locality. . . ." Apparently they found such cooperation impossible, because a leaflet was issued to the laity and the statement was made that they intended to advertise "all over North America in publications of national and international circulation, as well as in local newspapers. . . ." Naturally the laity couldn't be expected to administer this treatment by the hypodermic method and it is not surprising to read that "experiment has proved that the same solution can be taken internally." In addition to the advertising leaflet, the public also was provided with a "pocket calendar good for 200 years" which contained numerous testimonials from physicians laudatory of the "bromin-iodin" treatment. The layman who received one of the leaflets was told that if he was suffering from "asthma, bronchitis, colds, consumption, coughs, eczema, goiter, hay fever, neuralgia, rheumatism . . . also constipation and kidney troubles," and his recovery was "not as rapid as it should be," should, moreover, his physician refuse to use the bromin-iodin compound "it might not be a bad idea to discharge him" and get a physician who would!

At the time this "treatment" was first tried by its "inventor," the results given in fifty cases were: First stage, 90 per cent. cures; second stage, 50 per cent. cures; third stage, no cures, but improvement in several cases; this was in 1895. It now appears that this "treatment" has after a period of "patent medicine" exploitation come back into the "ethical proprietary" field. Presumably a mixture such as that represented by the "formula" did not lend itself to administration by mouth; there was nothing to do, therefore, but enlist the aid of "easy" physicians in furthering its sale.—(*From The Journal A. M. A., June 4, 1910.*)

CALMINE

New Names for Old Drugs

"Calmine, the new Hypnotic," is another example of the ingenuity of the exploiters of proprietary preparations in coining new names for old drugs and the recklessness with which exploiters herald forth renamed remedies to the profession and the public as new and wonderful discoveries.

This is what the promoters, sustained by a calm confidence in the credulity of the profession, have to say:

In the medical circles throughout the country a good deal of interest and even enthusiasm over this new hypnotic is noticeable.

Very few drug products have attracted so much attention as this one.

A really satisfactory hypnotic and sleep-inducer, which Calmine certainly seems to be, has been awaited expectantly for many years. Of course, we have always had agents of this sort—a new one has come out at frequent intervals—but none of them have “filled the bill”; they have been prescribed only because there was nothing better to be had.

Now this new and wonderful discovery is nothing but Veronal-sodium (sodium diethyl-barbiturate) under another name. It is the sodium salt of the more or less favorably known hypnotic, Veronal (diethyl-barbituric acid). It is also sold as Medinal, and differs from Veronal only in that the combination with sodium has made it more readily soluble, and thus, it is claimed, its absorption is more prompt. Veronal is protected abroad by a trade-mark and in this country by a patent, and this, undoubtedly, is responsible for the introduction of this sodium salt under these fanciful names, because Veronal could not be sold without infringing on the patent. This in turn induced the manufacturers of Veronal, in self-protection, also to put the sodium salt on the market, and now we have it under the name of Calmine. This probably is only the beginning; soon we may look for it under a host of other names and the usual result will follow: thoughtless physicians who have had poor results with it under one name will try it under others. Or worse still, physicians will thoughtlessly combine Veronal with Calmine or with Medinal in the same prescription, thus giving a dangerous dose.—(*From The Journal A. M. A., Jan. 14, 1911.*)

CAMPHENOL

Camphenol is made by Johnson & Johnson, New Brunswick, N. J. Under the name of the article on the carton appears the following formula: $C_{10}H_{16}O-C_6H_4(CH_3)OH=C_6H_5OH$. This formula consists of the chemical formulas for camphor, cresol and phenol, written one after another, and from this one would conclude that Camphenol is a compound of camphor, phenol and cresol in molecular proportions. Examination shows, however, that Camphenol is but a modification of the well-known camphorated phenol (the liquid produced when solid camphor and phenol are triturated together). In Camphenol a part of the phenol, in the camphorated phenol, has been replaced by cresol, and this liquid has been diluted and emulsified with gelatin or some similar substance and perfumed. In other words, this preparation is an emulsion containing relatively small quantities of cresol, phenol and camphor and is another illustration of the attempts of would-be pharmaceutical houses to produce new synthetics in the simplest manner possible—that of writing the chemical formulas of the constituents of a remedy in a way to indicate a chemical combination.—(*From The Journal A. M. A., Nov. 5, 1910.*)

CAPUDINE

Another of the Subtle Poisons

A great many inquiries reach the Association's laboratory regarding various nostrums and "patent medicines" with requests for analyses, but the number of preparations thus brought to notice is so great that it would take an army of chemists to satisfy all inquiries. As it is, only such preparations are examined as will serve as examples of a class of nostrums which it is desired to expose or that are of special interest to the profession. Hick's Capudine Cure—or as it is known to physicians "Elixir Capu-Hicks"—is one of such examples, and its investigation has been deemed advisable.

MANUFACTURERS' CLAIMS

The manufacturers—the Capudine Chemical Company, Raleigh, N. C.—issue two kinds of advertising pamphlets—one for physicians and another for the public. The medical profession is told that Capudine is

... especially recommended for the relief of all headaches, colds, la grippe, neuralgia, sick headache, nervous headache, acidity, flatulency, and indigestion pains, also for dysmenorrhea, after pains, etc.

A formula of the type that usually accompanies preparations of this character is given:

Elixir Capu is composed of the combined Bromids of Potassium, Sodium and Ammonium, Caffein, Capu, Elixir Peppermint, Adjuvants and Correctives, Syrup and water, q. s.

To elucidate further and for the information of those who have never heard of the substance capu, we are told:

Capu is a cellulose product—Chemical formula $C_{18}H_{20}N_3O_4$ possessing very powerful analgesic properties and is a mild antipyretic.

In a "Laundry List" pamphlet extolling the virtues of the remedy, the public are informed that

Hicks' Capudine CURES all headaches, indigestion, la grippe, colds, etc.

No remedy ever placed before a suffering mortal has the wonderfully quick powers of Capudine.

Hicks' Capudine is not a "dope"; will not produce a habit.

Try this splendid remedy and enjoy life once more.

Capudine is a liquid, acts immediately and is sold by dose at soda fountains, and in 10, 25 and 50c bottles at drug stores.

LABORATORY FINDINGS

Capudine (whether in the form of Elixir Capu-Hicks, or as Hicks' Capudine Cure) is a brown, rather syrupy liquid, slightly alkaline to litmus, with an aromatic odor and a salty taste. Besides 8 per cent. of alcohol, Capudine was found to contain sugar, aromatics, chlorids, caffein, antipyrin and salicylates. Quantitative estimations demonstrated the presence of about 1.25 gm. (19 grains) of antipyrin and caffein to each fluid ounce, and salicylates equivalent to about 0.9 gm. (14 grains) of salicylic acid to each fluid ounce. Thus Capudine depends for its action principally on antipyrin.

COMMENTS

As a barefaced attempt to exploit, at the same time and with the same preparation, both the medical profession and the public, this nostrum is probably preëminent in the annals of the "patent medicine" business—a business whose claims to deceit and mendacity are already high. That medical journals should aid and abet such methods would seem unbelievable. Testimonials are forthcoming, of course. In the pamphlet to

TRY
CAPUDINE
 ELIXIR CAPU—HICKS

The Liquid Remedy
FOR The aches and Nervous-
ness of Malaria
NEURALGIA
MYALGIA
MIGRAINE
Periodic pains of women

ANALGESIC NOT NARCOTIC

Sample and Formula sent to
 any Physician upon application

CAPUDINE CHEMICAL CO.
Raleigh, N. C.

Reproduction (reduced) of an advertisement of Capudine in a medical journal (*Medical Summary*). In this way the physician is reached.

HICKS'
CAPUDINE
CURES COLDS
and GRIPP It Removes the Cause.
 Relieves Feverishness and Aching.
 Soothes the Nerves and Restores Healthy Conditions.
IT'S LIQUID—EFFECTS IMMEDIATELY
Contains No Acetanilide
 16c, 25c and 50c a bottle at Drug Stores

Reproduction (reduced) of an advertisement to the public that appeared in a religious publication, the *Baptist Flag*.

the laity, these come from the butcher, the baker and the candlestick maker, while in the "literature" to physicians, at least some of the testimonials—"case histories," if you please!—come, it is needless to say, from our old testimonio-maniac friend, W. T. Marrs,¹ M.D., of Peoria Heights, Ill. As Dr. Marrs has recommended, at various stages of his literary career, such remedies as Neurilla, Antikamnia, Bromidia, Chionia, Arsenauro, Cactina Pillets, Thialion, Phenoseptine, Papine, Calcidin and others too numerous to mention, his opinion regarding Capudine must be considered authoritative. Dr. A. S. Reed of Naples, Maine, also details a "case history" in which the marvelous results achieved by the administration of Capudine are surpassed only by the still more marvelous spelling and composition of the testimonial.

In the lay press we find Capudine extensively advertised in the typical "patent medicine" style. In the "Laundry List"

1. See THE JOURNAL, March 14, 1907.

pamphlet, previously referred to, which goes direct to the public, there are graphically portrayed some of the conditions in which Capudine is indicated.

For the purpose of determining the attitude of the Capudine Chemical Company regarding its policy of combining the "patent medicine" and "ethical proprietary" business in one and the same preparation, a Chicago physician wrote, asking if it made any particular difference whether he wrote a prescription for Elixir Capu-Hicks or told his patients to go to the drug store and ask for a bottle of Hicks' Capudine Cure. The Capudine Chemical Company rose gracefully to the bait and swallowed it hook and line. The answer, dated Sept. 28, 1903, is so ingenuous and enlightening that we give it almost in full. For the purpose of emphasizing certain passages we have employed italics and small capitals:

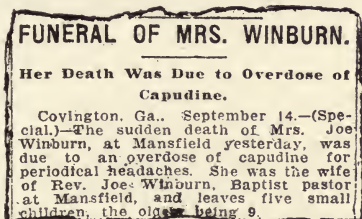
"We use the name Elixir Capu-Hicks so that Doctors can write for it and have their prescriptions filled *without the consumer knowing that it is the same thing as the advertised product*. A great many of our doctor friends prefer this.

"In regard to the cost to the druggist it is the same and we presume that MOST DRUGGISTS DISPENSE CAPUDINE BY THE DOSE OVER THE COUNTER AND ELIXIR CAPU-HICKS ON PRESCRIPTION FROM THE SAME ONE-PINT OR ONE-GALLON BOTTLE OF CAPUDINE, WHICH IS PERFECTLY ALL RIGHT [! !]. Capu-Hicks specially for their prescription trade."

"Perfectly all right" indeed! What though you deceive your patient, stultify yourself and use your druggist as a catspaw; just so you increase the sale of Capudine it "is perfectly all right"—for the Capudine Chemical Company.

The formula furnished physicians is, of course, a joke. The various ingredients given—without quantities—are, with the exceptions of Capu, well-known drugs. Capu is not so well known; in fact, its circle of acquaintances is limited to the Capudine Chemical Company. According to the company (and if it doesn't know, who does?) "capu is a cellulin product—chemical formula $C_{18}H_{20}N_3O_4$." This looks abstruse and scientific, and doubtless in many cases prevents further impertinent and awkward questions. The description only lacks one thing to prevent it qualifying for an honored position in the hall of fakes—a "structural formula" of weird and impressive design. The great unknown—Capu—is, of course, as the analysis demonstrates, our old friend antipyrin. On the "literature" furnished physicians and on the advertising distributed to the public, great stress is laid on the fact that Capudine "contains no acetanilid." This puts the nostrum in that dangerous class of "patent medicines," increasingly common of late, in which a heart-depressing drug is present, but one, unfortunately, which the Food and Drugs Act does not require to be specifically

named on the label. Mr. Adams, in the "Great American Fraud" series says, in speaking of the labels on "patent medicines:" "If the words 'warranted harmless' appear anywhere, look twice over for the Ethiopian in the woodpile." We would say if the words "contains no acetanilid" appear on the label of any "headache cure," it is a safe guess that some other equally dangerous heart-depressant is there in its place. The statements that (1) "Hicks' Capudine is not a 'dope'"; (2) "does not contain . . . poisonous drugs," and (3) "will not produce a habit," are three separate and distinct falsehoods. As to its "harmlessness," a telegram that



Reproduction from the Atlanta (Ga.) *Constitution*, Sept. 15, 1908, which gives the lie direct to the statement that Capudine "does not contain poisonous drugs."

appeared in the Atlanta (Ga.) *Constitution*, which we reproduce, refutes briefly but tragically, this cruel lie. Dr. E. W. Warren, of Palatka, Fla., reports the case of a woman who was thought to have been murdered, but the state's attorney concluded that her death was caused by too much Capudine.

And this hybrid "'patent medicine'-proprietary" is to be found advertised in medical journals! How much longer will the medical profession put up with it?—(From *The Journal A. M. A.*, Oct. 17, 1908.)

THE CHOLOGEN TREATMENT FOR GALL-STONES

The proprietary Chologen is interesting some of our readers and several have sent us samples and literature. Dr. Philip Marvel, Atlantic City, N. J., for example, writes:

"By the way, I am to-day sending you by mail a package which the Council on Pharmacy and Chemistry may care to tackle, or it may not. I shall not be insulted any way, but since these chologen preparations are being used a good deal by various globe trotters, who sometimes hook up for a short stay here, I feel it might be of some interest to know 'what fools these mortals be' and how much the profession is being fooled with them."

Chologen as a medical treatment for gall-stones has been before the German public for a number of years, and it is somewhat singular that so simple a method, which could be easily prescribed by the physician if it had merit, should exhibit such remarkable vitality in proprietary form in spite of evidence going to show that it rests on erroneous principles. The Council rejected it as an unscientific mixture. The treatment is somewhat liberal, consisting of the use, in varying successions, of three kinds of tablets: No. 1, calomel and podophyllin; No. 2, calomel, and No. 3, calomel, podophyllin, camphor and menthol. The proprietors tell us that the treatment should be proceeded with in spite of disturbances, such as diarrhea and pain in the abdomen, and that it should be repeated regularly at intervals for some years, so long as any trouble exists or recurrence is threatened. "A course" of Chologen tablets should be taken two or three times a year, No. 1 being given for ten days, then Nos 1 and 2 for forty days and No. 3 for ten days.

It is worthy of note that experimental work seems to have been performed in the attempt to show that bile produced by this remedy will cause the disintegration and solution of gall-stones. Normal bile has a certain solvent action on gall-stones, but calomel and podophyllin have no demonstrable effect in increasing the amount of bile. We had imagined that these facts were generally known.

It is somewhat discouraging to reflect that some physicians entertain so low an estimate of their ability to prescribe such well-known remedies as calomel and podophyllin that they must use them in the fixed combinations provided by Dr. Glaser. If the self-respecting physician does not consider himself insulted by a proprietary manufacturer who presumes to tell him how to use such well-known remedies, this is a good sign that he needs to take a postgraduate course in materia medica and elementary prescription-writing. We feel that medical writers must be short of subjects when they devote papers to the exploitation of proprietaries consisting of these simple ingredients.—(*From The Journal A. M. A., Feb. 1, 1913.*)

DANIEL'S CONCENTRATED TINCTURE OF PASSIFLORA INCARNATA

Curious Pharmacologic Action of May-Pop (*Passiflora incarnata*)

In perusing the "literature" of some of the fearfully and wonderfully made proprietary mixtures on the market one is uncertain whether the attitude of their manufacturers is "We aim to please" or one of "Heads we win, tails you lose." The uncanny elasticity of pharmacologic action in proprietaries of the type referred to is the cause of this uncertainty. For

instance, we find that both amenorrhea and menorrhagia are amenable to the same remedy and it is nothing unusual for a nostrum to be both a stimulant and a sedative.

We are reminded of this fact in perusing the "literature" of Daniel's Concentrated Tincture of *Passiflora incarnata*, a proprietary marketed by J. B. Daniel, Atlanta, Ga. According to the booklet this remedy is to be employed in both convulsions and paralysis. Unlike many nostrums the proprietor claims to base his recommendations on exact pharmacologic investigations of which he produces two brands; the doubting physician pays his money and takes his choice. If he has a case of convulsion let him consult the laboratory report of Dr. Isaac Ott, who tells us that "in *Passiflora incarnata* we have a drug of considerable power producing a depressant action on the reflex activity of the spinal cord." If, on the other hand, the physician has a case of paralysis to deal with he should turn over the page and take the authority of the certificate of the "Iamatological Bureau" which states, "it notably exalts the reflex function of the spinal cord."

Let the doctor in search of a hypnotic that is not a hypnotic and a powerful remedy that "does not endanger the heart" take his choice between these two contradictory actions. It is all the same to the nostrum maker so long as the doctor uses his "only reliable preparation of May-Pop" for all cases, every time and all the time.

But, seriously, isn't it about time that such opera bouffe methods of presenting medicinal agents to physicians should be resented by the medical profession? Disease itself is a serious thing and the treatment of disease is no trifling matter. The attempt to induce physicians to use a preparation by investing it with incongruously contradictory virtues neither flatters the intelligence of the medical profession nor invests pharmacy with any degree of dignity.—(*From The Journal A. M. A., Oct. 9, 1909.*)

HAGEE'S CORDIAL OF COD-LIVER OIL

Fraud and Deception Connected with So-Called Cod-Liver Oil Preparations

The introduction of cod-liver oil as a supposedly easily assimilable nutrient and reconstructive was followed by its extensive use in wasting diseases, especially in phthisis, in the treatment of which it came to be considered almost essential, as it was supposed to possess some mysterious power different from that of other oils. Its unpalatable character led to various devices to render it tasteless and to make it more acceptable to the stomach. Emulsions containing the oil in mixture with other substances were put on the market and served a useful purpose. But the oily nature, imperfectly concealed, was disagreeable to many, and gradually other preparations

appeared which attempted to retain the supposed therapeutic virtues of cod-liver oil while dispensing with its disagreeable character. This attempt has been carried to the extreme that in many of the cod-liver oil preparations now on the market the oil has been entirely eliminated and all that is left of the oil is the name. This is a species of fraud which has been tolerated too long, but which will be kept up so long as physicians are willing to be duped. Some of these articles are said to "represent" the oil and to possess all its virtues. Others are said to contain oil, while still others are stated to contain "all the valuable constituents." What is the standard by which we may determine the true value of these preparations and by which we may determine whether or not we, and through us our patients, are being humbugged?

A FOOD OR MEDICINE—WHICH?

Is cod-liver oil to be considered a food or a medicine? A food, certainly. As a food its value will consist in the fats it contains. These fats are more easily oxidizable and are considered more digestible than other fats because of the presence of compounds derived from the liver which favor its emulsification and enable it to penetrate the mucous membrane more easily than other fats. Aside from their nutrient properties we have no evidence that the fats of cod-liver oil possess any therapeutic value; if the oil possesses therapeutic qualities they must reside in its non-fatty constituents, and the activity of these non-fatty constituents is not acknowledged by those who have investigated them scientifically. Most pharmacologists believe that whatever virtue there is in cod-liver oil depends on its qualities as an easily assimilable fat.

On the whole, we must conclude with Cushny that "cod-liver oil has not been shown to have any action apart from that of an easily digested food, and its superiority to some other fats and oils has not been satisfactorily established."

If, then, the value of cod-liver oil depends on the presence of fat as its nutritive constituent, the amount of fat a preparation contains will determine the worth or worthlessness of such a preparation; at all events, a preparation claiming to represent cod-liver oil which does not contain fat in some form is fraudulent.

HOW TO PROVE OR DISPROVE THE PRESENCE OF COD-LIVER OIL

Fats may be changed to fatty acids or to soaps, as occurs under the influence of pancreatic juice in digestion, and still retain their nutritive value, but it is not possible to manipulate them in any way so that they are still valuable as food, and yet do not respond to easily applied chemical tests which demonstrate their fatty nature.

Any preparation of cod-liver oil in which fat or fatty acid is not recognizable by proper tests is valueless as food, since its food value depends on the amount of fat or fatty acid present.

An elementary knowledge of chemistry and the application of a few simple tests will enable any physician to learn for himself whether or not a preparation contains fat or fatty acids.

The preparations claiming to "represent" cod-liver oil are in liquid form, and if they contain oil it must be one of the following forms:

1. An emulsion of the oil which may be miscible with water, but from which the fat tends to separate and rise to the top. In this form the fat can be seen as globules under the microscope.

2. A solution, resulting from the saponification of the oil, containing a soap which usually will be alkaline in reaction, especially when mixed with water, and from which fatty acids are separated as a precipitate when the solution is acidified.

3. A solution of fatty acids. This will be acid in reaction and will be precipitated by the addition of water, in which the fatty acids are not soluble.

Hagee's Cordial of Cod-Liver Oil

Hagee's Cordial of Cod-Liver Oil Compound is said to "represent 33 per cent. of pure Norwegian cod-liver oil," with other ingredients, in perfect solution. It is also claimed, according to the advertising pamphlet, that "in this preparation we have every beneficial constituent of the best and purest Norwegian cod-liver oil." Put to the above three tests, however, Hagee's cordial of cod-liver oil is not, 1, an emulsion of cod-liver oil; 2, is not a saponification of cod-liver oil; and, 3, does not contain fatty acids. It, therefore, contains no cod-liver oil. The only nutrients in the mixture, revealed by analysis, are sugar, alcohol and glycerin, none of which is contained in cod-liver oil.

In this case the manufacturer misleads by the use of the word "represents"; he is careful not to say "contains," although the average reader would not be apt to notice the nice distinction. The manufacturer unwittingly admits that it contains no oil when he says that it "contains everything of value except the grease." What else there is of value in cod-liver-oil besides the "grease" we do not know. Certainly, if we estimate the value of the remedy by its nutrient properties, it must be set down as practically worthless, if not fraudulent, for although a mixture of sugar, alcohol and glycerin does possess certain nutrient value, the materials can be purchased for it far more cheaply in the open market. It is evident that claims are made for this preparation which cannot be substantiated.

Again, some of the so-called cod-liver oil preparations are termed extracts of cod-liver oil, but are not in fact made from the oil, but from the cod-livers instead. They are preparations which, if honestly made, might be worthy of trial, but they are improperly called "extracts" of cod-liver oil, since

they do not contain the fat, which is the active constituent of the oil, but the extractives from the liver which may or may not possess therapeutic virtues. So far as we know, however, no satisfactory evidence is forthcoming to indicate that such extractives have any therapeutic value.

The attempt to modify cod-liver oil for therapeutic purposes may be pronounced a failure and the large variety and extensive sale of these preparations appear to be owing to the fact that physicians do not recall the ordinary facts of chemistry and fail to apply simple tests with little technical skill, but too readily accept as facts the statements of the manufacturers.—(*Modified from The Journal A. M. A., Oct. 13, 1906.*)

DUFFY'S MALT WHISKEY

"Patent Medicine" or Poor Liquor—Which?

What is this widely advertised fraud, sold as a "consumption cure," claimed to be the "greatest known heart tonic" and a preparation that "builds up the nerve tissues, tones up the heart, gives strength and elasticity to the muscles and richness to the blood?" The answer to this question will be found to depend, apparently, on when it is asked.

During the Spanish-American war Duffy's Malt Whiskey qualified as a "patent medicine" by the payment of the special tax that was put on nostrums as a means of raising revenue. In a circular issued at that time by the Treasury Department it was stated:

"The Duffy Malt Whiskey Company have, by evidence under oath filed in this office, shown that their compound called 'Duffy's Pure Malt Whiskey' is composed of distilled spirits in combination with drugs. . . ."

On the other hand, even while the Federal Government was declaring the stuff a "medicine," the Supreme Court of the state of New York decided that Duffy's Malt Whiskey was not a medicine but a liquor and that persons selling it would be required to pay the same excise tax and to procure the same liquor-tax certificate that were required of the sellers of any other whiskey. The way in which the New York courts came to pass on this question is an interesting chapter in "patent medicine" history.

THE PAXSON CASE

A New York City druggist named Paxson sold Duffy's Malt Whiskey without first having paid the liquor license. The New York state excise department proceeded against the druggist for so doing. Paxson's defense was that Duffy's Malt Whiskey was not a liquor but a medicine and it was, therefore, not subject to the liquor laws of the state of New York. When the case came to trial, the New York authorities called as witnesses three chemists, Dr. Joseph De Guehnee, Dr. Charles A. Crampton and Dr. Edward W. Wheeler.

WHAT THE CHEMISTS FOUND

Dr. De Guehuee, who at that time was chief chemist in the Health Department of the City of New York, testified that he had analyzed Duffy's Malt Whiskey and he reported in part:

"I found the contents of the bottle to be whiskey, with a little cane sugar added to it, a sweetened whiskey . . . I found no other ingredients. My examination would have revealed any other ingredients present in quantities sufficient to be determined by chemical analysis."

Dr. Crampton, the chief chemist of the Internal Revenue Bureau of the Treasury Department in Washington, reported his results in part as follows:

"I have made an examination of the substance known as Duffy's Malt Whiskey . . . I found it contained no medicinal ingredients outside of the alcohol in the whiskey. . . . It is whiskey of a very poor quality as a beverage . . . it is not whiskey which, according to the pharmacopeial standard has been aged. . . . The taste of this bottle is indicative of a rather poor quality of whiskey, what is known as young whiskey or raw whiskey; it has not the full flavor and aroma of an aged whiskey."

DUFFY'S PURE MALT WHISKEY**CURES CONSUMPTION.**

All druggists and grocers, \$1 a bottle. Medical booklet free. Duffy Malt Whiskey Co., Rochester, N. Y.

The claim made by the Duffy Malt Whiskey Co. that their nostrum "cures consumption" is as false as it is cruel.

Dr. Wheeler, a chemist of the New York state Department of Agriculture, testified that he had analyzed Duffy's Malt Whiskey:

"In my opinion, there is no appreciable drug or medicine in Duffy's Malt Whiskey. There was about 1 per cent. of solids in the bottle which I analyzed. The solid was largely sugar. There was coloring matter."

WHAT THE DUFFY PEOPLE CLAIMED

The courts assessed against Paxson a judgment of more than \$700. Paxson then appealed the case to the New York Supreme Court, which refused to set the judgment aside and assessed him further costs for the refusal. Then the Duffy Malt Whiskey people showed their hand. They took up the matter and a motion for a new trial was argued on the ground that new and important evidence had been found. In affidavits submitted by the Duffy Malt Whiskey Company, Clarence E.

Sherin, president of the concern, declared that Duffy's Malt Whiskey contained, in addition to alcohol, the following drugs:

Fluid extract calumba (columbo)
 Fluid extract hydrastis (golden seal)
 Fluid extract pareira (Pareira Brava)
 Fluid extract taraxacum (dandelion).

Dr. Richard Curran, Rochester, N. Y., declared under oath:

"That he personally prepares the tincture made from the following drugs, viz.: Fluid Extract Calumba (Columbo), Fluid Extract Hydrastis (Golden Seal), Fluid Extract Pareira (Pareira Brava), Fluid Extract Taraxacum (Dandelion), under direction of the Duffy Malt Whiskey Company, which tincture he knows to be used in the preparation of the medicinal compound known as Duffy's Pure Malt Whiskey. His knowledge that these medicinal agents are used is because of the fact that he personally delivers the same to Walter J. Duffy, vice-president of the Rochester Distilling Company."

He further declared:

"That he himself personally makes the medicinal tincture, and from his own knowledge, says that the character of the product and its effect on the system is in marked contrast with any straight whiskey; in fact, he regards it as a whiskey in name only; a medicine of the greatest value, in fact."

It will be noticed that the *amounts* of the drugs alleged to be put in the whiskey are not given. Further affidavits were filed in the case from several Rochester physicians each of whom had some words of praise for this stuff.

SOME SWORN TESTIMONIALS

DR. WILLIAM B. CONNER regarded Duffy's Malt Whiskey "as a valuable curative agent" which he had "had occasion to use . . . in his practice."

DR. W. HOBART CURTIS affirmed that "the effect of Duffy's Pure Malt Whiskey is different from that of any other whiskey. . . ."

DR. EDWIN S. HAYWARD, JR., swore that he considered the stuff "a medicine of widely acknowledged value" and that it has been his habit to prescribe it "in cases where the activities have been at low ebb."

DR. HARRY M. SCHALL declared under oath that "on numerous occasions he has used Duffy's Pure Malt Whiskey in his practice."

DR. J. SHERBURNE READ declared that "Duffy's Pure Malt Whiskey has been used and prescribed by him for a number of years." Incidentally it may be mentioned that Dr. Read at present is the "director" of the Okola Laboratory, a fraudulent mail-order medical concern operated by the Neal-Adkin syndicate.

DR. GEORGE W. GOLER, who at that time was health officer of the city of Rochester, declared that he "has been informed of the drugs used in medicating Duffy's Pure Malt Whiskey and with this information and his knowledge of the power of such drugs, he is free to say that the quantity and quality of the medicines so employed substantially transform the liquor

from the condition of being purely a whiskey to a medicated compound."

DR. JOHN A. STAPLETON deposed that "he was made acquainted with the method of medicating Duffy's Pure Malt Whiskey and the drugs employed for the purpose" and was "of the opinion that the liquor during such medication undergoes a decided change."

DR. J. J. A. BURKE swore that "he was aware from the beginning that Duffy's Pure Malt Whiskey was being medicated" and further that he "knew of the ingredients employed for the purpose and thought them good."

DR. RICHARD M. MOORE declared that he was "convinced that the liquor can *no longer* be considered a stimulant pure and simple, but a medicated combination by the solvent power of alcohol." [Italics ours.—ED.]

DR. WILLIAM M. BARRON stated that "he knows the remedies employed in medicating Duffy's Pure Malt Whiskey" and "unhesitatingly considers that this whiskey is changed in a marked degree by the introduction of these drugs."

Thus did these Rochester physicians solemnly declare that Duffy's Malt Whiskey was a "patent medicine" and not a cheap whiskey. Nevertheless, the analyses made by three chemists, working independently, conclusively proved that there were no drugs present in sufficient quantities to be demonstrable by chemical analysis! Again it should be noted that while the Duffy concern swore that drugs were put into its whiskey, it was careful to avoid giving any information regarding the quantities of the drugs that were alleged to be added.

The state chemists of North Dakota subjected this product to chemical analysis and in the Agricultural Experiment Report for 1906 declared:

"Analysis indicates it to be nothing more than neutral spirits, colored and flavored. The amount of solids is high because it has syrup added to make it 'smooth' and give it flavor."

POLITICAL INFLUENCE PROTECTS A FRAUD

For years, Duffy's Malt Whiskey has gone out to the public with the most flagrantly false and fraudulent claims made for it on the wrapper around the bottle. The government officials finally took action and in 1908 a quantity of Duffy's Malt Whiskey was seized on the charge of being adulterated and misbranded under the Food and Drugs Act. What happened? It appears that the Hon. James Breck Perkins, member of Congress from Rochester, at once "got busy."

At the time of the prosecution by the state of New York, Mr. Perkins was attorney for the Duffy Malt Whiskey Company and it was he who filed the brief in behalf of the company in support of the motion for a new trial. Mr. Perkins, at that time, was apparently highly incensed by the activities of the state authorities against Duffy's Malt Whiskey. In closing his brief at that time, Mr. Perkins expressed himself thus:

"It does not seem to me that the officers who represent the state in any proceeding, and certainly not in criminal proceedings, are required to exhibit so extreme a zeal."

Apparently zeal, in a public officer acting against large vested interests, however fraudulent, is something that Mr. Perkins would not tolerate. It is not surprising, then, that when the Department of Agriculture seized a large consignment of Duffy's Malt Whiskey, Congressman Perkins should


rush to the rescue. The incident was described somewhat fully by *Collier's* at the time. According to that paper, Perkins wrote his first letter on the official stationery of the House Committee on Foreign Affairs of which committee he was a member. It read in part:

"The Duffy Malt Whiskey Company . . . is controlled by our most prominent and leading citizens and *I trust matters can be adjusted in such a way as not to injure a long established industry.*"

He wrote a second letter, it is claimed, this time on the official stationery of the Printing Committee. In addition, letters were written by various other prominent politicians of western New York and a dozen personal visits were made to Washington. No less than six different officers of the Department of Agriculture are said to have been written to. The hearing was postponed time and again. Finally, it was set for a definite date but before that time arrived it was again postponed. This, it must be remembered was in 1908. In the latter months of 1910, THE JOURNAL attempted to get some information regarding the status

works. for the estimates fixed at each

**Consumption Cured—
Gained 45 Pounds**



MR. EMIL T. SHERBERT
Ludington, Mich. (Special): "Two years ago I consulted 19 physicians and each and every one informed me that I had about six months to live, being badly affected with tuberculosis. I started using Duffy's Pure Malt Whiskey for relief at the suggestion of a friend, and to-day I am entirely cured, and I know it is because of this medicine, as I took nothing else. When I started using it I weighed 139 pounds, and to-day I weigh 184 pounds."—Emil T. Sherbert, 427 Dowland St.

In 1860—more than half a century ago—the formula of Duffy's Pure Malt Whiskey was discovered. It was also discovered that it was a great curative agent in the treatment of tuberculosis, pneumonia, grip, coughs, colds, other throat and lung troubles, and in all stomach troubles. The merit and honesty of an article that has been before the public for such a length of time cannot be questioned. Its fame has spread the world over, and it stands to-day the most celebrated and most successful medicine known.

Duffy's Pure Malt Whiskey is the only whiskey that was taxed by the Government as a medicine during the Spanish-American war.

The genuine is sold IN SEALED BOTTLES ONLY by all druggists, grocers and dealers, or direct \$1.07 per large bottle.

The Duffy Malt Whiskey Co., Rochester, N. Y.

Of course, Duffy's Malt Whiskey never cured Mr. Sherbert, nor anybody else, of consumption.

of the case. We were told that the case was still pending. It is now almost 1913 and so far as we can learn the case

is still pending! *Collier's*, in closing its article regarding this disgraceful piece of political activity, says:

"Consider, now, one question: Was Perkins paid for what he did? Did he make that long hot trip from Rochester to Washington the night of July 16—Congress not being in session—from motives of public duty, or did he get money for it? If he got money he is guilty of exactly the same crime as that for which Senator Burton of Kansas went to the penitentiary. For the immediate activity of the Secret Service men there is no more pressing need than the investigation of whatever checks may have passed during the last eight months from the Rochester manufacturers of Duffy's Malt Whiskey (Walter J. Duffy, president) to the Rochester law firm of Perkins, Duffy & McLean (this latter Duffy being J. P., son of Walter J.).

"But whether Congressman Perkins has been guilty of a crime is not the point of this article. What is important is to let all the people know how necessary is their constant vigilance and support to see that the Pure Food Law is carried out. If you were an obscure subordinate in the Department of Agriculture or the Department of Justice, if you had no motive to proceed against a swindling patent medicine or an adulterated food except your own conscience, if your first move met with personal protest from the congressman who controlled your salary, your promotion, and your official existence, how soon would you grow tired? The enforcement of the pure food law needs all the encouragement and enthusiasm that the public can contribute; there is no trouble about the enthusiasm of the opposition—that is a matter of dollars and cents, and it is working twenty-four hours a day."

"DUFFY'S ANNUAL"

Every bottle of Duffy's Malt Whiskey is wrapped in a large circular called "Duffy's Annual." This "Annual" consists, largely, of testimonials from laymen and physicians. We have on file one issued in 1901 and another issued in 1911. There are noticeable differences between the two circulars. In the earlier annual much is made of the statement that Duffy's Malt Whiskey contains no fusel oil; nothing is said on this point in the later circular. The 1901 issue comes out frankly with the falsehood that Duffy's Malt Whiskey "cures consumption," etc. In the 1911 circular the "lie direct" has given place to the "lie with circumstance." The earlier circular contains a long testimonial from Willard H. Morse and the Duffy company at the conclusion of the testimonial adds:

"Dr. Morse is not only an M.D. and an F.S.Sc., but is a well-known therapist and a consulting chemist of national reputation."

The facts are that Willard H. Morse is a professional testimonial writer who has issued fake analytical reports for some of the biggest frauds on the American market. The title "F.S.Sc." is one that is given—price \$5 (1 guinea)—by a fraudulent organization in London that styles itself the Society

of Science, Letters and Art. This title is very popular with "patent-medicine" fakers.

The earlier "Annual" recommends Duffy's dope for "painful and irregular periods"—pathologic states about which the later one says nothing. The 1911 circular "features" a testimonial from the "Hon. Richard Curran, M.D., formerly mayor of

Consumption Cured; Gained 25 Pounds



MRS. JAMES W. FLEMING.

Duffy's Pure Malt Whiskey

pure distillation of grain entirely malted. Overworked men, delicate women and sickly children, will find has been doing all this for the past fifty years. It is the result of years of careful work and is an abso lute remedy in the prevention and cure of consumption, pneumonia, grippé, bronchitis, coughs, colds, asthma, malaria, low fevers, stomach troubles, and all wasting and weakening conditions, if taken as directed. It is recognized as a family medicine everywhere. You should have it in your home.

If in need of advice, write Medical Department, The Duffy Malt Whiskey Company, Rochester, New York, stating your case fully. Our doctors will send you advice free, together with a valuable illustrated medical booklet, containing new cough-and-cure tips for health which you cannot afford to be without, and some of the many thousands of gratifying letters from men and women in all walks of life, both old and young, who have been cured and benefited by the use of this great medicine, and who continue to enjoy good health. It is sold in SEALED BOTTLES ONLY by druggists, grocers and dealers everywhere, or shipped direct. Price \$1.00 per large bottle.

DAFFY'S Cured

The Doctor Diagnosed the Case as Tuberculosis. When Mrs. Fleming Was So Weak and Run-Down She Wasn't Able to Do Any Work—Duffy's Pure Malt Whiskey, the World's Greatest Medicine, Cured Her and Built Up Her Health and Strength—Her Weight Has Increased Twenty-Five Pounds.

In a recent letter she said: "I want to tell you what Duffy's Pure Malt Whiskey did for me; eighteen months ago I was so weak and run down, I wasn't able to do any work. I only weighed 10 pounds. The doctor said I had tuberculosis and I think he was right. I was advised to take Duffy's Pure Malt Whiskey and I did. Now I feel fine, do my own work, weigh 125 pounds, and I wouldn't be without a bottle of Duffy's Pure Malt Whiskey in the house; I can't praise it too highly."—Mrs. James W. Fleming, 911 South Weber Street, Colorado Springs, Colo.

When you feel weak and run down and all out of sorts, you need a pure tonic-simulant that will build you up, enrich your blood, quicken your heart action and restore your strength in a gradual, healthy manner.



Another consumption-cure advertisement of the testimonial type.

Rochester." This testimonial may carry weight with those who do not know that Dr. Richard Curran is in the employ of the Duffy's Malt Whiskey Co. He it was, as we have shown, who testified in May, 1905, that he prepared the various drugs which were put in Duffy's Malt Whiskey. But we have on file a letter written in 1910 by Dr. Curran—and written on the stationery of the Duffy Malt Whiskey Company—in which he declares:

"Duffy's Pure Malt Whiskey is not a patent medicine, but a refined medicinal whiskey, made from choice materials and complies with the test requirements of the United States Pharmacopeia."

Does this mean that the Duffy product of to-day is different from that sold five or six years ago? It would seem so. Some of the more recent pamphlets sent out by the Duffy Malt Whiskey Company contain what purport to be analyses made by chemists. One of these is from Joseph De Guchuee who, it will be remembered, when testifying in 1905 as chief chemist of the health department of the city of New York, declared that he

found this product to be "whiskey with a little cane sugar added to it." But Dr. De Guehuee later became associated with the Lederle Laboratories and in that capacity he declared: "Duffy's Pure Malt Whiskey is free from added sugar . . ."

We have been asked at various times whether the testimonials of Duffy's Malt Whiskey purporting to come from physicians are genuine. Investigation of a large number of them indicates that the testimonials as now published are documentarily genuine. Evidently the Duffy Company has found that it is no longer necessary to "fake" testimonials,¹ as it has done in the past.

Of 104 physicians who had written testimonials for Duffy's Malt Whiskey, 5 are members of the American Medical Association, and 18 have written testimonials for other nostrums. From our files it appears that some of the 104 testimonial-givers are either advertising quacks or are connected with fraudulent medical concerns. It is not difficult to estimate the scientific value of testimonials that come from such sources.

CONCLUSION

We may accept the statement of the state chemists of North Dakota that the stuff is plain alcohol with syrup added to give it "smoothness" and coloring added to make it look like whiskey; or we may believe the federal chemist who declared it simply "whiskey of a very poor quality;" or we may think that Chemist De Guehuee was right when he said it was "whiskey, with a little cane sugar added to it;" or we may prefer Dr. De Guehuee's later pronouncement that the stuff "is free from added sugar;" again we may feel that Dr. Curran's early declaration is worthy of attention and that Duffy's Malt Whiskey contains drugs and is "a medicine" or possibly we may take Dr. Curran's later statement that the product is merely a whiskey as defined by the Pharmacopeia. But whether we consider Duffy's Malt Whiskey a "patent medicine" or a low grade "booze" makes little difference. On one point we can agree unanimously; the stuff is an impudent fraud. As we have said elsewhere: A high grade whiskey has but a limited place in therapeutics; Duffy's Malt Whiskey has none.—(*From The Journal A. M. A., Nov. 23, 1912.*)

A Repudiated Testimonial

In the early part of 1906, the Duffy Malt Whiskey Company issued an advertisement in which appeared what purported to be a testimonial from Rev. James Stoddard of Perry, N. Y. According to the advertisement, the Rev. J. Stoddard was a "Doctor of Divinity" and a "great pulpit orator," who in writing the testimonial was "gratefully acknowledging the

1. Some testimonials investigated a few years ago by THE JOURNAL were shown to be fraudulent. See THE JOURNAL A. M. A., Dec. 16, 1909, p. 1890.

debt he owes to Duffy's Pure Malt Whiskey." Here is the letter published by the Duffy concern as having come from Stoddard:

PERRY, N. Y., Sept. 21, 1905.

My Dear Brother: "Yes, dear brother, it would give me lasting joy to be at your bedside through these long and trying days; to be able to minister to your physical wants, and to lead your thoughts along paths profitable alike to both of us. Alas, I cannot come to you, but I am comforted in knowing that the lung trouble is leaving you and that you are in good hands and have every care. Above all, that your doctors have found in Duffy's Pure Malt Whiskey the one medicine that is curing you. I am certain that this preparation will continue to build you up, that it will put you on your feet again, as well and strong as you used to be.

You will remember the condition in which the closing months of the last year found me. My voice was gone, I suffered from chronic bronchitis, I was weak in body and slow of mind. When hope had all but vanished, a dear, old friend brought me Duffy's Pure Malt Whiskey. I took it according to directions, a dessert-spoonful three times a day. You know full well what a cure was wrought in my case.

To-day I am strong, robust and healthy. My throat is completely cured, my voice restored. I am imbued with strength, energy and hope. My limbs of elasticity of youth, and I possess the exalted powers of mind and body. This and more I owe to Duffy's Pure Malt Whiskey, the purest and most effective medicinal preparation nature has produced. I bid you then to take courage.

Yours with warmest good wishes,

REV. JAMES STODDARD."

A few weeks after the appearance of this advertisement in the newspapers of the country, the *Perry* (N. Y.) *Record*, a newspaper published in the city in which Mr. Stoddard was formerly a pastor, had something to say about what it termed the "contemptible trick" that had "been played upon Rev. James Stoddard." It appears that Mr. Stoddard's picture in the Duffy advertisement had caused much unfavorable comment in Perry, as well as in other places where he was known. To obtain the facts in the case, a resident of Perry wrote to Mr. Stoddard. Here is the reply that was received:

ROCHESTER, N. Y., Jan. 31, 1906.

Mrs. A. B. Andrews, Perry, N. Y.

Dear Madam: In reply to your letter of the 30th I would say that a great injustice has been done me. I never wrote that letter, as can be seen by the fact that I had left Perry 11 weeks before the date of it. I had no such sick friend, and it is not my mode of writing. I am no "D.D." and never was "a great pulpit orator."

The truth is, when I left Perry I had no means and went in search of work. I could find none in the church, so I tried other ways. At last a friend told me that I might be able to place on sale the mineral water which I discovered in the State of Wyoming, near Rock Springs, through the Warner Safe Cure Company.

This company is now owned by Duffy & Co. and is in the same building. A week later I was sent for and introduced to Mr. Duffy and son, whom I found to be very cordial. Then the man who sent for me told me that Mr. Duffy had three cousins in the Episcopal ministry, and so felt kindly disposed, and if I would

accept copying work to be done at my home I could have it to do until I found something better. Afterward, the manager talked with me about the West and wished to see some of my illustrated addresses. He offered to buy one of them and wanted me to let my picture go with it. The next thing I learned was that the picture was used for an advertisement, which shocked me beyond anything ever before. I went immediately to President Duffy of the company, and he at once took action to prevent the publication from appearing again.

I was a fool to fall into such a trap and am being roundly abused. Such advertising agents are too sharp for the clergy.

PERRY RECORD

VOL. XIII, NO. 2

PERRY, N. Y., THURSDAY, FEBRUARY 9, 1906

CONTEMPTIBLE TRICK

PLAYED UPON REV. JAS. STODDARD

A HIGH MEDICAL PROTECTIVE LAW

REV. EVANS DESIGNATED "DANGEROUS INTERFERER"

FARRINGTON INSTITUTE

RE-HERALD, CHICAGO, JANUARY 7, 1906.

My Life a Sermon of Thankfulness

Says Rev. J. Stoddard, D. D., Great Pulpit Orator and Former Rector of the Church of the Holy Apostles, in gratefully acknowledging the debt he owes to Duffy's Pure Malt Whiskey. Impressive truths from the lips of this distinguished divine, who bids his ailing brother be of good cheer and prophesies that health, strength and the joy of living will return to him:

REV. JAMES STODDARD, D.D., Former Rector Church of the Holy Apostles, Perry, N. Y.

Perry, N. Y., September 21, 1905.

My Dear Brother:

"Yes, dear brother, it would give me lasting joy to be in your lapside through these long and trying days, to be able to minister to your physical wants, and to lead your thoughts along paths profitable alike to both of us. Alas, I cannot come to you, but I am comforted in knowing that the long trouble is leaving you, and that you are in good hands and have every care. Above all, that your doctors have found in Duffy's Pure Malt Whiskey the one medicine that is curing you. I am certain that this preparation will continue to build you up, that it will put you on your feet again, in well and strong as you used to be.

"You will remember the condition in which the closing months of last year found me. My voice was gone, I suffered from chronic bronchitis, I was weak as body and slow of mind. When I next had a full cough, a day, old friend brought me Duffy's Pure Malt Whiskey. I took it according to directions—a demerit—quashed three times a day. You know I will admit a cure was wrought in my case.

"Today I am spring robust, healthy. I am strong as completely cured. My voice restored. I am imbued with strength, energy and hope. My limbs are the elasticity of youth, and I possess the exalted powers of mind and body. This and more I owe to Duffy's Pure Malt Whiskey; the purest and most effective medicinal preparation nature has produced. I bid you do this to cure yours."

"Years with worsted good wishes, REV. JAMES STODDARD."

More than fifty years Duffy's Pure Malt Whiskey has been practiced by doctors and used as one of the most reliable healing agents in the grateful home-remedy and health building power to medical science. It is beloved by the clergy and professional classes and recommended by all schools of medicine in the best care for coughs, colds, consumption, grip, bronchitis and pneumonia. It stimulates and renews the blood, aids digestion, builds up the nerve system, tones up the heart and fortifies the system against disease germs. It prolongs life, keeps the old young and the young strong. Duffy's Pure Malt Whiskey contains no food oil and is the only whiskey recognized by the Government as a medicine. This is a guarantee. For sale by all reliable grocers and purveyors, to whom it is sold in this city only, never in bulk. It is a bottle. Make sure that you get the only bottle. It is a bottle and medical bottles show. Duffy's Pure Malt Whiskey Co., Rochester, N. Y.

Photographic reproductions, greatly reduced, of (1) a Duffy advertisement giving what purported to be a letter from the "Rev. J. Stoddard, D.D., Great Pulpit Orator," and (2) of a portion of a newspaper, reproducing a letter from Mr. Stoddard in which he disclaims being either a "D.D.," a "great pulpit orator" or, in fact, the author of the letter published by the Duffy concern.

Perhaps Osler was right; when we cease to be young and active we ought to be chloroformed. We fall into traps. We are liable to have tricks played upon us, and what we say of water is used to puff up something else. But there is a just God, and he will take care of his old servants who have borne the burden and heat of the day.

Sincerely yours,

JAMES STODDARD.

Fraudulent Testimonials

We have repeatedly asserted that there is no dividing line between nostrums advertised to the public in newspapers—"patent medicines"—and those advertised to the medical profession—"proprietarys." Many are advertised both to the public and to the profession openly—because there are medical journals that will take such advertisements. It is not our intention to expose the fraudulent character of so-called "patent medicines" except incidentally, until the fraudulent character of the "ethical" proprietary business has been published to the profession. We refer to Duffy's Pure Malt Whiskey this week because it is among the nostrums advertised to physicians.

We know of no more fraudulent and extravagant claims for any "patent medicine" than those which the proprietors of Duffy's Pure Malt Whiskey make in their advertisements. Their claims for it as a health restorer equal those made for peruna, liquozone, wine of cardui, and similar nostrums.

But "Duffy's Pure Malt Whiskey" is advertised in medical journals!

A SAMPLE TESTIMONIAL

Some months ago a big display advertisement of Duffy's appeared in the newspapers. It was accompanied by a photograph of an old lady and by the old lady's testimonial. Here is the testimonial, with some of the comments on it that appeared in the "ad.":

"A DEAR OLD SOUL ACTIVE AND HAPPY AT 106

"Mrs. Nancy Tigue, of Lafayette, Ind., Although in Her 106th Year, Says:

"I Really Don't Feel Like I'm a Day Over 60, Thanks to Duffy's Pure Malt Whiskey, Which Is the Real Secret of My Great Age, Health, Vigor and Content."

"Mrs. Tigue Is Blessed with All Her Faculties and Does Exquisite Fancy Work Without Glasses. She is as Spry as Many Women Half Her Age.

"With the Help of the Invigorating and Life-Giving Powers of This Wonderful Medicine Mrs. Tigue says She Expects to Live Twenty-five Years Longer.

"I will be one hundred and six years old," writes Mrs. Tigue, "on the fifteenth of March, and really I don't feel like I am a day over sixty, thanks to Duffy's Pure Malt Whiskey. Friends say I look younger and stronger than I did 30 years ago. I have always enjoyed health and been able to eat and sleep well, though I have been a hard worker. Even now I wait on myself and am busy on a pretty piece of fancy work. My sight is so good I don't even use glasses. Am still blest with all my faculties. The real secret of my great age, health, vigor and content is the fact that for many years I have taken regularly a little Duffy's Pure Malt Whiskey, and it has been my only medicine. It's wonderful how quickly it revives and keeps up one's strength and spirits. I am certain I'd have died long ago had it not been for my faithful old friend 'Duffy's,' August 10, 1904."

"Duffy's Pure Malt Whiskey

"Is the Comfort and Support of Old Age.

"The sincere and grateful tribute of Mrs. Tigie to the invigorating and life-prolonging powers of Duffy's Pure Malt Whiskey is one of the most remarkable and convincing on record. She sews, reads and is dependent upon no one for the little services and attentions of old age. Mrs. Tigie's memory is perfect, and her eyes sparkle with interest as she quaintly recalls events that have gone down into history of the past hundred years. Instead of pining, as many women half her age, she is firm in the belief that with the comforting and strengthening assistance of Duffy's Pure Malt Whiskey she will live another quarter of a century."

These statements were so remarkable that we wrote to two physicians of Lafayette for facts. It seems that one of the Indianapolis newspapers published an item regarding Mrs. Tigie having reached her one hundred and fifth birthday, and evidently this was the cue for the Duffy exploiters.

The following letter is from Dr. George F. Keiper, one of the councilors of the Indiana State Medical Association. As the eye and ear surgeon to St. Elizabeth's Hospital he visited that institution every day, which explains his personal knowledge of the case.

LAFAYETTE, IND., Nov. 18, 1905.

My Dear Doctor:—Yours of the 14th has been received; also a copy of an advertisement published in the newspapers last winter, which contains, among other matter, a photograph of Mrs. Nancy Tigie, and also, among other statements, the following: "Mrs. Nancy Tigie, of Lafayette, Ind. Although in Her 106th Year, Says: 'I Really Don't Feel Like I'm a Day Over 60, Thanks to Duffy's Pure Malt Whiskey. Which is the Real Secret of My Great Age, Health, Vigor and Content.'"

I have had several interviews concerning Mrs. Tigie and this testimonial. I have known the old lady for a number of years and, to my certain knowledge, she has never used alcoholics in any form. I used to see her every day at St. Elizabeth's Hospital. I interviewed Sister Bernardi, the Sister Superior of St. Elizabeth's Hospital, where Mrs. Tigie was for a number of years. The Sister Superior says that Mrs. Tigie never took any whiskey while there. I further asked Sister Benigna and Sister Aloysia and they both denied that she used Duffy's Malt Whiskey.

For the past three or four years Mrs. Tigie has been at St. Anthony's Home for the Aged, going there from St. Elizabeth's Hospital when the Home was opened. This Home is a branch of St. Elizabeth's Hospital. Sister Frances is in charge of the Home, and she told me that Mrs. Tigie has never taken a drop of any kind of whiskey while there.

I also saw her son, Mr. Michael Tigie. The advertisement of Duffy's Malt Whiskey filled him with indignation passing all bounds. He corroborated all that the Sisters told me, and he further told me that when this advertisement appeared, he had some sharp correspondence with the Duffy people.

The photograph used in the advertisement was obtained by a party who said he wanted to use it in one of the Indianapolis papers. Of course, misrepresentation was resorted to.

Concerning the testimonial: The man who obtained it, went to Mrs. Tigie and requested her to sign a testimonial concerning Duffy's Malt Whiskey, but she said she never used it, and the agent was told to see her son. The man then saw Mr. Michael Tigie, who refused to grant his request. The agent then took a notary public to the Home and represented to Mrs. Tigie that her son told her to sign the testimonial. Very truly yours,

GEORGE F. KEIPER.

Dr. W. W. Vinnedge is another Lafayette physician to whom we wrote. His letter we quote:

LAFAYETTE, Nov. 21, 1905.

Dear Doctor:—In response to your inquiries as to Mrs. Nancy Tigue of Lafayette, I beg to say that I investigated her case as to Duffy's Malt Whiskey somewhat less than a year ago. . . . This morning I found Mr. Michael Tigue, single, stone-cutter, ex-township trustee, 58 years old, son of Mrs. Nancy Tigue, and . . . he dictated and signed the enclosed statement. . . . You have been misinformed in one particular, Mrs. Tigue does not live in a home for feeble-minded, but in the Old People's Home, under the care of the Poor Franciscan Sisters. I visited her there twice in the early part of the past summer, saw her sitting by her bed fully dressed, saw her led across the floor by a Sister with a hand under her (Mrs. T's.) elbow, and she appeared to be nearly blind, as the Sister said. The old lady, however, is fairly intelligent, and while very senile in appearance talked understandingly. She and the Sister assured me that she drank no intoxicating drinks at all, and never had done so, and from their manner and words I saw that they thought the report ridiculous. I am sure that the old lady knows nothing at all about Duffy's Malt Whiskey.

As to the testimonial given by the old lady. About a year ago a young man from Indianapolis, a newspaper man, got off the train here one morning and called on Mr. Mike Tigue, and asked for a testimonial. Mr. Tigue gave him permission to see his mother, but refused the testimonial. The enterprising young man hired a horse and buggy from a livery stable, and taking Mr. Oscar Campbell, notary, Lafayette, drove out to the Old People's Home, about two miles, and saw the old lady, led her to think that her son Michael had sent them, that he wished her to sign the testimonial, which she did by making her mark, and without having a clear idea of the contents of her statement, and without having any idea at all of what use was to be made of it. You know the balance.

Later, as I am informed, Mr. Michael Tigue wrote, or caused his attorneys, Messrs. Kumler & Gaylord, Lafayette, Ind., to write to the Duffy Malt Company protesting against the use of his mother's name, forbidding it. Finally, he told me to-day, the firm quit publishing her picture and statement in the newspapers, but it is in press and will appear in Duffy's book soon; they could not "cut it out" of that at this stage. If you wish any additional information and will indicate what it is, I will be very pleased to try to get it and to help along the good work in which you are engaged.

Very truly yours,

W. W. VINNEDGE.

The following is the statement referred to, made by Mr. Tigue:

LAFAYETTE, Nov. 21, 1905.

To Whom it May Concern:—I am the son of Mrs. Nancy Tigue, who is now an inmate of the St. Anthony's Home, and I am 58 years old. My mother is one hundred and five years old, was born in Ireland. Our home is, or was, 413 S. 1st St., Lafayette. Mother is almost blind, and she has been cared for by the Sisters about four years—one year at the Old People's Home. My mother never drank any intoxicating drinks at all. She does not know what Duffy's Malt Whiskey is. She was imposed on in order to obtain the advertisement of Duffy's Malt Whiskey, being nearly blind was influenced to sign a false affidavit by Duffy's solicitor, which was published without our knowledge or consent. MICHAEL G. TIGUE.

CENTENARIAN FEELS LIKE A GIRL

A "companion piece" to the above is the picture and testimonial of Mrs. Louisa Cox of Harrington, Maine. This is still

appearing in the newspapers, or was a month ago. Here is the testimonial as it appeared in the newspapers:

HARRINGTON, ME., May 20, 1904.

"Gentlemen:—I am 105 years old. I am well, without a pain or ache. I sleep as well as I did when I was a girl. I use your whiskey and like it very much. Duffy's Pure Malt Whiskey is the only medicine I use. I get water from the well, bring in wood, and do my housework.
MRS. LOUISA COX."

The advertisement is accompanied with the usual extravagant claims and statement, but we have only space for one quotation. In this advertisement we are told that:

"There are 4,000 men and women in this country alone who have passed the hundred year mark, and nearly every one of them has publicly acknowledged that he or she owes health, strength, continued use of all the faculties, and extreme old age to Duffy's Pure Malt Whiskey, the great cure and preventive of disease, the true elixir of life."

Four thousand people in this country over 100 years old have publicly acknowledged that they use Duffy's Malt Whiskey!! We wrote to Dr. E. A. White, Columbus Falls, Maine, and asked him to investigate the case. Dr. White replies as follows:

COLUMBIA FALLS, ME., Nov. 11, 1905.

Dear Doctor:—In accordance with your request I went to the home of Mrs. Lovisa Cox (not Louisa as appears in the advertisement). She tells me she will be 107 the 12th of January, 1906. She says she never took Duffy's Pure Malt Whiskey or any other whiskey in her life. Never took but very little medicine any way. Her daughter, Eliza A. Shaw, with whom the old lady lives, verified the statement. You will notice a statement from her on the back of your enclosed letter. She knows about the advertisement which has appeared in the *Bangor Commercial*, a paper printed in Bangor, Maine. She has been interviewed a number of times about the matter and always denied it. Calls it a lie. The advertisement is in the *Bangor Commercial* now, same as the one you sent me. An article came out in the *Bangor News*, another paper printed in Bangor, Maine, denying the statement of the old lady's appearing in ad. of the *Commercial*. The old lady can neither read nor write, so if she made her cross (x) under any statement she would have no way of knowing really what it contained, thereby giving some unscrupulous person a chance to deceive her. I do not think this was even done. I do not charge you anything for my trouble; am only too glad to help you to unearth such frauds. Let me know if you need anything more. Yours,
E. A. WHITE.

On the back of the letter to Dr. White is written with pencil the following:

This is to certify that I, Eliza A. Shaw, daughter of Mrs. Lovisa Cox, know that my mother never has taken Duffy's Pure Malt Whiskey, or any other whiskey for medicine.

Witness: SUSIE A. SHAW.

ELIZA A. SHAW.

A letter to the postmaster of Harrington, Maine, brought the following reply:

HARRINGTON, ME., Nov. 13, 1905.

Dear Sir:—Relative to enclosed ad. would say that party in question has never used liquor in any form and can secure her affidavit to that effect if you care to bear the expense. Party lives some four miles from town; it would be necessary to drive out in order to interview her. Yours,

WM. N. DYER, P. M.

Those who want further information regarding the character of the Duffy testimonials should refer to the article in *Colliers*.

NO PAIN OR ACHE AT 105

Mrs. Louisa Cox, Who Is 105 Years Old, Sleeps Like a Girl, and Says She Does Not Know What It Is to Have a Pain or Ache.



MRS. LOUISA COX.

Her Only Medicine Is
**DUFFY'S PURE MALT
WHISKEY, "The Renewer
of Youth."**

Harrington, Maine, May 20, 1904.

Gentlemen—I am 105 years old. I am well, without a pain or ache. I sleep as well as I did when I was a girl. I use your whiskey and like it very much. Duffy's Pure Malt Whiskey is the only medicine I use. I get water from the well, bring in wood, and do my housework. Mrs. Louisa Cox.

**4,000 Centenarians Owe
Health and Old Age to**

Duffy's Pure Malt Whiskey

There are 4,000 men and women in this country alone who have passed the hundred year mark, and nearly every one of them has publicly acknowledged that he or she owes health, strength, continued use of all the faculties, and extreme old age to Duffy's Pure Malt Whiskey, the great cure and preventive of disease, the true elixir of life. We will send you free a booklet containing portraits and letters of many of these old people, and valuable medical information.

If you would be strong and vigorous, and able to enjoy the work and pleasures of life to the fullest; if you would live to ripe old age without aches and pains, take Duffy's Pure Malt Whiskey as directed and avoid all drugs. Doctors say it's the most powerful aid they have in fighting and curing diseases of throat, lungs and stomach, low fevers and all weakening, wasting, nervous, run-down, diseased conditions from whatever cause.

It acts quickly and builds up the whole system. Duffy's Pure Malt Whiskey is used exclusively in leading hospitals. The old reliable family remedy of hundreds of thousands for over fifty years. Its purity is vouched for by chemists, and by the fact that it's the only whiskey recognized by the government as a medicine.

Every testimonial is published in good faith and guaranteed.

—AVOID SUBSTITUTES.

Be sure you get the genuine Duffy's Pure Malt Whiskey, sold in bottles only, by all reliable druggists and grocers at direct price \$1.00. It is the only absolutely pure medicinal Whiskey and contains no food salt. Look for the trade-mark, the "Old Chemist," on the label, and be certain the seal over the cork is unbroken. Duffy Malt Whiskey Co., Rochester, N. Y.



Photographic reproduction of a Duffy advertisement giving what purported to be a testimonial from Mrs. Cox of Harrington, Me. Investigation indicated that Mrs. Cox could neither read nor write and had never taken either Duffy's whiskey or any other whiskey.

For the wonderful virtues of Duffy's Malt Whiskey, as a medicine, we respectfully refer to the advertisements appearing in the newspapers of the country.— (*Modified from The Journal A. M. A., Dec. 16, 1905.*)

What Collier's Said about Duffy's Malt Whiskey

From its very name one would naturally absolve Duffy's Malt Whiskey from fraudulent pretence. But Duffy's Malt Whiskey is a fraud, for it pretends to be a medicine and to cure all kinds of lung and throat diseases. It is especially favored by temperance folk. "A dessertspoonful four to six times a day in water and a tablespoonful on going to bed" (personal prescription for consumptive), makes a fair grog allowance for an abstainer.

MEDICINE OR LIQUOR?

"You must not forget," writes the doctor in charge, by way of allaying the supposed scruples of the patient, "that taking



This saloon advertised Duffy's Malt Whiskey, the beverage "Indorsed" by the "distinguished divines and temperance workers," and displays it with other well-known brands of Bourbon and rye—not as a medicine, but purely as a liquor, to be served, like others, in 15-cent drinks across the bar.

Duffy's Malt Whiskey in small or medicinal doses is not like taking liquor in large quantities, or as it is usually taken. Taking it a considerable time in medicinal doses, as we direct, leads to health and happiness, while taken the other way it often leads to ruin and decay. If you follow our advice about

taking it you will always be in the temperance fold, without qualm of conscience."

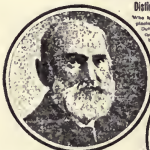
It has testimonials ranging from consumption to malaria, and indorsements of the clergy. On the opposite page we reproduce a Duffy advertisement showing the "portraits" of three "clergymen" who consider Duffy's Pure Malt Whiskey a gift of God, and on this page a saloon-window display of this product. For the whiskey has its recognized place behind the bar, being sold by the manufacturers to the wholesale liquor trade and by them to the saloons, where it may be purchased

THE NEW YORK SUNDAY APRIL 5, 1908

CLERGYMEN ENDORSE

Duffy's Pure Malt Whiskey.

Distinguished Divines and Temperance Workers



Rev. W. H. DUNHAM, D. D.
"I consider this Pure Malt Whiskey a gift of God. It is a most valuable and healthful beverage, and I have no hesitation in recommending it to my congregation. It is a most valuable and healthful beverage, and I have no hesitation in recommending it to my congregation."



Rev. A. H. HOUGHTON, D. D.
"I have no hesitation in recommending this Pure Malt Whiskey to my congregation. It is a most valuable and healthful beverage, and I have no hesitation in recommending it to my congregation."



Rev. J. C. McLEOD, D. D.
"I have no hesitation in recommending this Pure Malt Whiskey to my congregation. It is a most valuable and healthful beverage, and I have no hesitation in recommending it to my congregation."



THREE "DISTINGUISHED TEMPERANCE WORKERS" WHO ADVOCATE THE USE OF WHISKEY

Of these three "distinguished divines and temperance workers," the Rev. Dunham runs a Get-Married Quick Matrimonial Bureau, while the "Rev." Houghton derives his income from his salary as Deputy Internal Revenue Collector, his business being to collect Uncle Sam's liquor tax. The printed portrait of Houghton is entirely imaginary. The Rev. McLeod lives in Greenleaf, Mich.—a township of 893 inhabitants, in Salina County, north of Port Huron, and of the railway line. Mr. McLeod was called to trial by his presbytery for indorsing Duffy's whiskey and was allowed to "resign" from the fellowship

over the counter for 85 cents a quart. This is cheap, but Duffy's Pure Malt Whiskey is not regarded as a high-class article.

Its status has been definitely settled in New York State, where Excise Commissioner Cullinane recently obtained a decision in the supreme court declaring it a liquor. The trial was in Rochester, where the nostrum is made. Eleven supposedly reputable physicians, four of them members of the Health Department, swore to their belief that the whiskey contained drugs which constituted it a genuine medicine. The state was able to show conclusively that if remedial drugs

were present they were in such small quantities as to be indistinguishable, and, of course, utterly without value; in short, that the product was nothing more or less than sweetened whiskey. Yet the United States government has long lent its sanction to the "medicine" status by exempting Duffy's Pure Malt Whiskey from the federal liquor tax. In fact, the government is primarily responsible for the formal establishment of the product as a medicine, having forced it into the patent medicine ranks at the time when the Spanish war expenses were partly raised by a special tax on nostrums. Up to that time the Duffy product, while asserting its virtues in various ills, made no direct pretence to be anything but a whiskey. Transfer to the patent-medicine list cost it, in war taxes, more than \$40,000. By way of getting a *quid pro quo*, the company began ingeniously and with some justification to exploit its liquor as "the only whiskey recognized by the government as medicine," and continues so to advertise, although the recent decision of the Internal Revenue Department, providing that all patent medicines which have no medicinal properties other than the alcohol in them must pay a rectifier's tax, relegates it to its proper place. While this decision is not a severe financial blow to the Duffy concern and their cogeners (it means only a few hundred dollars apiece), it is important as officially establishing the "bracer" class on the same footing with whiskey and gin, where they belong.—(From *Collier's*, Oct. 28, 1905.)

ECTHOL

Ecthol, advertised in a style typical of nostrums, is said to contain as its active ingredients *Echinacea angustifolia* (Pale Purple Cone Flower) and *Thuja occidentalis* (Arbor Vitæ). Neither of these drugs is official in the U. S. Pharmacopeia and information concerning their therapeutic value amounts practically to unverified claims that they are useful as alteratives and in certain inflammatory conditions. The viciousness of vaunting an internal remedy for serious septic conditions without ample basis of fact is self-evident. A pamphlet before us, entitled "Ecthol in the Sudan," is a fine example of nostrum advertising, calculated to captivate the unthinking physician with its show of science and to mislead him into believing that the remedy exploited has been endorsed by high authority. It begins with a eulogy of the Wellcome Research Laboratory at Khartum, Sudan, and its second report, and the work of the laboratory is described and praised. In close connection with this praise of legitimate scientific work, we are told that ecthol is used in the Sudan, "and that it is regarded as almost a specific in certain classes of diseases." The reader is left to infer that its use is described in the report, although the advertiser is

careful not to say so. Three pictures of patients with smallpox, chickenpox and syphilitic ecthyma, respectively, are reproduced from the report and without apparent break in the article we are told that "it is in precisely such cases that ecthol gives its most striking results." Of course, the Wellcome Research Laboratory report contains no such mention of ecthol. While such attempts to bolster up a preparation by weaving its praises into an account of a strictly scientific report may be "good business," it is in fact *prima facie* evidence of the valuelessness of a remedy apparently unable to stand on its own merits.—(From *The Journal A. M. A.*, March 13, 1909.)

ENTERONOL

The "Greatest Germicide Known to Science"!

This preparation is put on the market by the Enteronol Company, Oswego, N. Y., which declares that Enteronol is "the greatest antiseptic and germicide known to science," and that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." The formula furnished by the company reads as follows: "Ipecac, sub. nit. bismuth, latalia rad., camphor, lupulin, caffein and rheum." The attention of the Council on Pharmacy and Chemistry of the American Medical Association was directed to this preparation by a correspondent who had received a circular from the Enteronol Company. He sent a dollar to the company asking for a sample of "latalia rad." that he might study the drug botanically, as he was unfamiliar with it. He expected to receive by return mail a sample of root or bark, but instead, he received three boxes of Enteronol and the information that as "latalia rad." costs from \$25 to \$45 a pound the company could not afford to send samples. In a circular letter sent out by this company "latalia rad." is said to grow on the sides of the Himalaya Mountains in India, and that the company is unable to obtain enough for its own use. This statement is probably correct, and no one else could secure the drug either. A sample of Enteronol was submitted to Professor Day, of the University of Illinois, and to Professor Kraemer of the Philadelphia College of Pharmacy. Professor Day reports that he was "unable to find any mention of the drug 'latalia rad.,' which is stated as one of the ingredients of this preparation. I have searched the usual works of reference on pharmacognosy without being able to find any reference to a drug of this name. A microscopic examination of the tablets shows the presence of rhubarb and of ginger, but no lupulin, at least not in substance; nor could I locate definitely any ipecac, also stated to be one of the ingredients. Since ginger is not stated to be one of the ingredients of the compound, it, perhaps, may be the mysterious

stranger 'latalia rad.' I was unable to locate any of the ordinary astringent drugs, such as kino, grameria, or nutgall." The results of Professor Kraemer's examination were practically identical with those obtained by Professor Day. A report from the chemical laboratory of the American Medical Association states that as Professors Kraemer and Day suggested the presence of alum, tests were made for this substance. The analysis, details of which are given, leads to the conclusion that alum is the chief constituent of Enteronol. The report adds strongly to the impression that "latalia rad." is simply a ruse to catch the unwary and trusting physician who lacks the time to look into the botany of every new plant discovered, and who is willing to trust the honesty of every manufacturer. Attention is also directed to the fact that while bismuth and caffein are mentioned as ingredients tests made in the laboratory failed to discover either of these substances. Since there is no lupulin, no ipecac, no caffein, no bismuth, and possibly no "latalia rad." one is forced to the conclusion that the "formula" is meaningless and worthless, and that it is used simply to satisfy the demand for formulas for proprietary remedies. This is one more beautiful illustration of the absurdity of accepting a preparation because the "formula is on every package."—(*Abstracted from The Journal A. M. A., March 21, 1908.*)

An Invitation to The Journal to Humbug the Profession

THE JOURNAL has received a circular letter from the Enteronol Company, in which the following liberal offer is made:

"We are willing to take one-fourth or one-half page 'ad' in your Journal for a year at the regular rate, on condition that you accept payment therefore in our GUARANTEED 7 per cent., preferred stock at par; or if you desire, in ENTERONOL at the net wholesale price to physicians."

Not that this offer is made exclusively to THE JOURNAL:

"A large number of medical journals have accepted the foregoing proposition; many carrying this advertising for several years already."

"Our company is cooperative; we paying no cash for advertising. The company is owned principally by physicians, medical journals, and druggists."

The journals of which we have record that carry the enteronol advertisement are: *Kansas City Medical Record*, *Milwaukee Medical Journal*, *Toledo Medical and Surgical Reporter*, *Proctologist*, *Pediatrics*, and the *Atlanta Journal-Record of Medicine*. If the statements made by the Enteronol Co. are true, we might infer that these journals are being paid for advertising space either with "preferred stock" or with the nostrum itself. As we have previously shown, however, the veracity of the enteronol advertising matter is by no means unimpeachable.

Enteronol, it will be remembered, was exposed in *THE JOURNAL*, March 21, 1908. It is advertised as the "greatest antiseptic and germicide known to science," and possesses (?) such remarkable power that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." "The original product is found only high up on the sides of the loftiest mountains in the world—the Himalayas of India."

THE "LITERATURE" FORMULA

Of course it has a "formula":

Ipecac		Lupulin
Sub. nit. bismuth	Latalia rad.	Caffein
Camphor		Rheum

This seems very open and above board, except as to quantities, until one tries to find out what "latalia rad." is; then it is discovered that it is the "mysterious stranger" of pharmacognosy. Experts to whom this "remedy" was submitted were unable even to find mention of such a drug or plant as "latalia rad." Nor was this the only fake found concerning the stuff; carefully conducted experiments repeatedly carried out in the Association's laboratory failed to disclose even a trace of bismuth subnitrate or caffen. These experiments did show, however, that the tablets contained an amount of aluminum corresponding to over 25 per cent. of crystallized alum. This led to the conclusion that alum, whose presence is not even hinted at in the "formula," is the chief constituent of enteronol and as a corollary that the formula is meaningless and worthless.

THE LABEL FORMULA

There is a curious lack of coordination between the "formula" as printed on the label and that given in the "literature." The Food and Drugs Act, it will be remembered, makes lying on the label illegal, and therefore dangerous; statements in advertising matter that does not accompany the product, however, are not controlled by that law. The "formula" in the "literature" we have already given; the "formula" on the label gives the following ingredients:

Ipecac		Lupulin
Sub. nit. bismuth	Opium, ¼ gr.	Caffein
Camphor		Rheum

Two things about this are worth noting: One is that the name of the ingredient on which the manufacturer lays so much stress—latalia rad., the mysterious Himalayan plant—is absent from the label. This would seem to indicate that what has already been intimated by *THE JOURNAL*—namely, that latalia rad. is a figment of the imagination—is a fact. The second noticeable thing about the label "formula," as distinct from the "formula" in the advertising matter, is that on the label we find there is opium in the preparation. Why

is no mention made of the presence of this potent drug in the advertising matter?

To determine how nearly the present statements made by the Enteronol Company approximate truthfulness, our chemists were asked to examine the nostrum as it is now sold. Their report follows:

LABORATORY FINDINGS

An original package of enteronol tablets was purchased on the open market and submitted to the Association laboratory for examination. In general appearance, odor and taste the new tablets are similar to those previously examined. The formula for the old tablets was given as "Ipecac, Sub. nit. bismuth, Latalia rad., Camphor, Lupulin, Caffein, Rheum," and is still used in the circulars. But the label on the trade package no longer mentions "latalia rad." Since the presence of "latalia rad.," in the old tablets, was questioned, and as new labels have ceased to display the name, it was thought possible that caffein and bismuth might now be constituents of enteronol, as the drugs are still mentioned in the new formula on the label. Accordingly, enteronol was examined chemically to verify the statements on the label regarding the presence of caffein and bismuth in the tablets.

The specimen submitted to the laboratory some time ago was found to contain neither bismuth nor caffein. By employing the same methods as were used before (the usual tests for detecting caffein and bismuth), neither caffein nor bismuth could be demonstrated. It is thus evident that this new specimen of enteronol, the statement on the label to the contrary notwithstanding, contains neither bismuth nor caffein—at least, in appreciable quantities.

One would think that the discrepancy between "formulas" and facts would prove of interest to the stockholders of the Enteronol Company, especially as we are told that the policy of the company is to have "practical men as stockholders." We are informed:

"Therefore, we have physicians, advertising experts, printers, publishers, engravers, boxmakers, lithographers, druggists, lawyers, traveling salesmen, officers and men holding executive positions in various manufacturing and commercial corporations, editors of medical publications, bishops, clergymen and missionaries—men from all the fields particularly valuable commercially for our great enterprise."

Yet if the physician-stockholders do not care to concern themselves about the composition of the nostrum from the sale of which they derive dividends, it can hardly be expected that the boxmakers or traveling salesmen will be interested.

STOCK FOR SALE

Medical journals are not alone in being invited to participate in the exploitation of this nostrum, *vide* a circular letter from the Enteronol Company addressed "To Investors":

"We offer at par of \$10 each, 1,000 shares of our Guaranteed 7 per cent. Preferred Stock, cumulative dividends, payable quarterly . . . Profits on business done last year were 54 cents for every dollar expended . . . *We guarantee absolute security for your investment. Safer than a bank.*" [Italics ours.—Ed.]

We are told that at present the Enteronol Company manufactures two products: a castor-oil preparation, known as fig-ol, and enteronol. Very shortly, however, the company expects to "add seven equally efficient products."

"The average cost to manufacture, ready to ship, a dollar's worth of these goods is less than ten cents."

"In enteronol alone, the company has fortunes and the only thing needed to bring tremendous results and dividends of 100 per cent. is the proper amount of judicious advertising."

Here are some samples of the judicious (?) advertising:

"One Christian missionary, the Rev. Paul Singh of Jubbulpore, India, testifies that he cured thirteen severe cases of Asiatic Cholera with a box containing less than thirty tablets" [of enteronol].

"Wm. F. Oldham, bishop of Southern Asia, writes us that enteronol cured nine cases out of ten of Asiatic Cholera. Now just think of India and China with their 800,000,000 people who are dying by the thousands of a disease which we have the power to cure so easily."

How like a discourse by that delightful character of Mark Twain's—the visionary Colonel Sellers—this reads. As he said about his "Infallible, Imperial, Oriental Optic Liniment:—"

"Why in the Oriental countries . . . every square mile of ground upholds its thousands on thousands of struggling, human creatures—and every separate and individual devil of them's got the ophthalmia."

The prospective stockholder is told that an ordinary business concern reaches the limit of financial possibilities in a few years, but:

"Not so with the Enteronol company—it is a mail-order business and the world is its territory."

Even so with Colonel Seller's "Optic Liniment:—"

" . . . It's a patent medicine whose field of operations is the solid earth."

And we are told elsewhere that "about four-fifths of the outstanding stock is held by the medical profession alone!"

And this stuff is advertised in medical journals!!

We are sometimes in danger of being too optimistic regarding the results of the propaganda for reform in proprietary medicine. Cases like this act as a corrective.—(*From The Journal A. M. A., Nov. 20, 1909.*)

FORMAMINT

The Profession to Be Worked Again

Formamint Tablets are widely advertised and extravagantly exploited to the laity in Great Britain. Large and expensive advertisements appear in the English magazines and news-

papers and the tablets are pushed under the most preposterous claims. The preparation is put out, we understand, by the same concern that exploits Sanatogen. The medical profession of this country is now being circularized and advertisements are appearing in medical journals. They already appear in the *Medical Record*, *New York Medical Journal* and *American Journal of Clinical Medicine*.

It seems then that this is another product which, for the time being at least, is to be a "patent medicine" on the other side of the Atlantic and an "ethical proprietary" on this. Doubtless the distinction will be a temporary one and as soon as American physicians have furnished the requisite number of testimonials and have recommended it to a sufficient number of their patients the advertisements will be quietly dropped from the American medical journals and the advertising pages of newspapers and magazines will be called into service.—(From *The Journal A. M. A.*, Jan. 27, 1912.)

The So-Called Germ-Killing Throat Tablet

Formamint tablets have recently been put on the American market by the same concern that exploits Sanatogen, the "food tonic" or "tonic food"—according to whether one reads European or American newspapers. Formamint tablets are being introduced to the American public by that cheapest of all methods of advertising "patent medicines," through the medical profession. It is not advertised in American newspapers or lay magazines—at present. For some years this product has been advertised in newspapers and other periodicals in Europe under such claims as the following:

"Formamint shields humanity against infectious disease."

"Cures and prevents sore throat."

"The dangers of infection from diseases like diphtheria, scarlet fever, measles, tonsillitis, sore throat, mumps, etc., have now been reduced to an absolute minimum. This is due to the discovery of Wulffing's Formamint—the 'germ-killing throat tablet'."

"Cleanses the mouth and throat from disease germs as easily and rapidly as dirt is removed from the skin."

"Formamint will certainly prevent diphtheria."

"Quickly render the whole mouth and throat thoroughly antiseptic."

"Formamint destroys these [diphtheria] germs so rapidly that when a physician mixed a little Formamint with water and added it to the germs taken from the throat of a patient dangerously ill with diphtheria they were all killed within ten minutes."

Such are some of the claims by which Formamint goes to the European public. Doubtless it will be only a matter of time when the required number of testimonials from American physicians are forthcoming when we may expect to find the newspapers of this country heralding through their advertising pages the fact that Formamint is "recommended by thousands of American physicians." The medical journals

that are lending their pages to this preliminary advertising campaign are the following:

New York Medical Journal
Medical Record
American Medicine

*American Journal of Clinical
 Medicine*
Medical Review of Reviews.

How much longer will the medical profession permit itself to be used as an unwitting agency for the exploitation of "patent medicines"? The game has been worked so often that it has become transparently thin. It is evidently not worn out, however, or shrewd nostrum promoters would not waste their time or money on it. That it should still be considered workable is complimentary neither to the standard of advertising ethics of medical journals that accept the Formamint advertisements nor to the intelligence of the members of the medical profession who will "fall for it."—*The Journal A. M. A., Feb. 24, 1912.*)

GLYCO THYMOLINE

Difficulty of Determining the Formula

In answer to the question: "Will you please inform me where I can find the formula for Glyco Thymoline, THE JOURNAL says: We cannot! Had "a" formula instead of "the" formula been asked for, we could have referred to various advertisements of this preparation. For instance, in the *Boston Medical and Surgical Journal* we find "a" formula as follows:

Sodium	24
Boric Acid	4
Benzoin	4
Acid Salicylic	0.33
Eucalyptol	0.33
Thymoline	0.17
Betula Lenta	0.08
Menthol	0.08
Pinl Pumillonis	0.17
Glycerin and solvents.....	q. s.

In the *Texas State Journal of Medicine* of the same date we also find "a" formula which varies to such an extent with other "formulas" that the editor of this journal, Dr. Chase, refused longer to carry the Glyco-Thymoline advertisement.

Benzo-Salicyl. Sod.....	33.33
Eucalyptol	0.33
Thymol	0.17
Salicylate of Methyl, from Betula Lenta....	0.16
Pinl Pumillonis	0.17
Glycerin and solvents.....	q. s.

In the *New York Medical Journal* of December 5, there is "a" formula which is similar to the one in the Texas journal, except that it has added to it:

Menthol	0.08
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Examination of the preparation in the chemical laboratory of the American Medical Association showed that it contained

no boric acid, but instead borax; that salicylic acid was not present as acid, but as its sodium salt; that benzoin instead of being present in comparatively large quantities, was practically absent, and sodium benzoate was in its place; that the compound "benzo-salicyl. sod." was absent, and there was instead, a mixture of sodium benzoate and sodium salicylate.

The results obtained in the Association's laboratory are corroborated by the work of Dr. J. Kochs (*Apotheker-Zeitung*, 1907, xviii, 169). Dr. Kochs states that Glyco-Thymoline is an alkaline solution containing potassium carbonate, sodium benzoate, sodium salicylate, borax, thymol, menthol, glycerin and alcohol.

The published formulas, therefore, disagree, not only among themselves, but with the facts. When purchasing proprietary preparations with such fickle formulas, "you pay your money" for the preparation—"and take your choice"—of formulas.—(*From The Journal A. M. A., Jan. 9, 1909.*)

GONOCOCCIDE

"Gonococcide" is a preparation sold by Cox Chemical Co., Chicago. The circular accompanying the package gives the following formula:

C_8H_8BrNO monobromacetanilid; $C_{10}H_{14}N_2C_7HO_3$ eudermol;
 $CaS_3 \cdot 2H_2O$ gypsum and selenite, $CaSO_4$ anhydrite; H_2O aqua and myrrh.

NOTE.—In combining calcium coral with sulphuric acid, calcium occurs as gypsum, selenite and anhydrite.

Gypsum, selenite and anhydrite are the names applied to different forms of calcium sulphate. Gypsum and selenite are chemically identical, being calcium sulphate and containing two molecules of water crystallization, $CaSO_4 + 2H_2O$, but differing in crystalline form. Anhydrite is also calcium sulphate, but contains no water of crystallization. The inclusion of three different forms of the same substance should be sufficient to demonstrate the "fakeness" of the formula. The first substance named, monobromacetanilid, has been used as an antiseptic under the trade names of antiseptin and asepsin. It is practically insoluble in water, and hence but little of it can be contained in the preparation. Eudermol is a name given to nicotin salicylate and its use externally has been recommended in scabies, chronic eczema, and other skin diseases. This being practically the only medicinal constituent given in the formula, its determination in gonococcide was taken up in the Association laboratory. Tests, however, failed to show the presence of this or any other alkaloid. While the addition of iodine to a 0.1 per cent. nicotin salicylate solution produces an abundant precipitate, the addition of iodine to a specimen of gonococcide produced no reaction whatever. Further comment

on the formula seems to be unnecessary.—(*From The Journal A. M. A., Aug. 24, 1907.*)

HEADACHE CURES

Harmful Effects of Acetanilid, Antipyrin and Acetphenetidin

The United States Department of Agriculture Bulletin¹ No. 126, issued July 3, 1909, sets forth the results of an investigation conducted by the Bureau of Chemistry with regard to the harmful effects of acetanilid, antipyrin and acetphenetidin. During recent years the use of these remedies and preparations containing them by the people at large, without the supervision of the physician, has increased rapidly and investigation has shown that coincidentally there has been a marked increase in the number of cases of poisoning reported, in the number of fatalities, and in the number of instances of habitual use.

Since the passage of the Food and Drugs Act, June 30, 1906, the attention of the Department of Agriculture has been directed to this subject, particularly in connection with the branding of drug products containing one or more of these agents, and an attempt has been made to obtain full and reliable data with regard to their poisonous qualities with the object of furnishing information to the public which would enable them to understand that these remedies should be employed with caution in the absence of reliable medical advice.

The investigation was conducted along two lines: First, an inquiry addressed to medical practitioners in the United States with regard to their personal experience with these drugs; and, second, the study of the cases of poisoning recorded in medical literature. Nearly a thousand letters, each containing eighteen questions, were addressed by the department to physicians throughout the country, the object being to secure information which would represent as closely as possible the conditions existing among the people at large so far as the harmful effects of the drugs in question are concerned. Four hundred replies were received.

The information obtained with regard to the number of instances quoted in medical literature in which poisoning, death, or habitual use has been known to result from the administration of acetanilid, antipyrin, and acetphenetidin is set forth in Section A of the accompanying table. The information summarized in Section B is based on the data submitted by physicians. Granting that the 525 physicians who did not reply had no cases to report, the question may profitably be asked, if 925 physicians have observed 814 cases of poisoning by these drugs, 28 deaths which are attributed to their use,

1. The Harmful Effects of Acetanilid, Antipyrin and Phenacetin, by L. F. Kebler, Ph.G., M.D., chief Division of Drugs, Bureau of Chemistry, with the collaboration of Drs. F. P. Morgan and Phillip Rupp, assistant chemists.

and 136 instances of habitual use, how many such cases have in all probability been observed by the 125,000 physicians scattered throughout the United States? The summary, C, includes both the number of cases recorded in medical literature and those reported by physicians.

POISONING BY ACETANILID, ANTIPYRIN AND PHENACETIN

A.—CASES RECORDED IN MEDICAL LITERATURE

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	297	13	32
Antipyrin	488	10	..
Acetphenetidin	70	3	1
Total	855	26	33

B.—DATA SUBMITTED BY PHYSICIANS

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	614	16	112
Antipyrin	103	5	7
Acetphenetidin	95	7	17
Total	814	28	136

C.—TOTAL NUMBER OF CASES

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	911	29	144
Antipyrin	593	15	7
Acetphenetidin	165	10	18
Total	1,669	54	169

The bulletin contains information with regard to dosage, the extent to which these drugs are employed by physicians, poisoning and habitual use, the nature of the ill effects produced, etc. It also contains references to the recorded cases of poisoning, together with a brief abstract of each case.—(*From The Journal A. M. A., July 31, 1909.*)

Sanatoriums and the Acetanilid Habit

To the Editor:—I enclose herewith a “form” letter and question blank which I received recently from St. Louis. I may be entirely too wary but I am suspicious that this is a collection of “statistics” to combat the work of the medical profession in educating the physician and the laity in the harmfulness of acetanilid and similar preparations.

G. H. BENTON, M.D., Chester, W. Va.

Sterling-Worth Sanitarium.

COMMENT: The letter which Dr. Benton encloses is in facsimile form and purports to come from Uriel S. Boone, M.D., of St. Louis, who states that he is “preparing an exhaustive article for publication in a leading medical journal” on the

question, "Is acetanilid a habit-forming drug?" To obtain the necessary data Dr. Boone is "writing to every hospital and sanitarium in the United States." Examination of the question blank which accompanies the form letter discloses the fact that information is wanted regarding not acetanilid alone, but also antipyrin and acetphenetidin (phenacetin). The last question asked runs as follows:

"If your records [of cases of habitual use of these drugs] are incomplete, would you allow a reputable physician to investigate the above mentioned cases so that he could write with positiveness about them, and, if necessary, *make oath to the truth of his report?*" [Italics ours.—Ed.]

Dr. Boone opines that the recipients of his queries "may hesitate to answer" the question just quoted, but he trusts that its importance will be evident when he explains that "it is currently reported that the manufacturers of acetanilid, phenacetin, etc., *have decided to prosecute all libelers of these drugs*" [Italics again ours.—Ed.] and he wishes to make no statement that he "can not substantiate under oath." Surely the life of the collector of medical statistics is unusually hazardous.

For the purpose of aiding Dr. Boone in his arduous search for truth on the "much mooted question, 'Is acetanilid a habit-forming drug?'" we direct his attention to a work that should prove of invaluable assistance. We refer to Bulletin 126 of the Bureau of Chemistry, entitled "The Harmful Effects of Acetanilid, Antipyrin and Phenacetin." This interesting study to which we have previously called attention, records 112 cases of the acetanilid-habit. Of this number, at least 50, or 44.6 per cent. of the cases were those of patients who took proprietary preparations of the drug.

From this we would not wish to give any bias to Dr. Boone's statistics. We hardly expect, however, that such will be the case. Dr. Boone's name appears as the author of an article entitled, "A Therapeutic Study of Antikamnia and Heroin Tablets"—an article that has been very extensively "quoted" and has been sent out in its entirety by the Antikamnia Chemical Company. Under these circumstances we may be forgiven if we venture the opinion that Dr. Boone is not likely to be unduly prejudiced against "headache tablets" in general and fake "synthetic" coal-tar mixtures in particular. We await with breathless interest the appearance of Dr. Boone's "exhaustive article" and we must confess to some degree of curiosity regarding the name of the "leading medical journal" in which these invaluable data will appear.—(Modified from *The Journal A. M. A.*, Aug. 14, 1909.)

HYDRONAPHTHOL

A correspondent having requested information regarding the composition of "Hydronaphthol," the product was investigated in the Association laboratory which reports as follows:

Hydronaphthol is sold by Seabury & Johnson. The label on a trade package of Hydronaphthol gives no clew as to the nature of the product. The statements on the labels do, however, make the claim that Hydronaphthol is an antiseptic of great power, also that it is non-toxic and therefore may be used with impunity; thus the following statements are made:

"A harmless, practically odorless, non-poisonous, non-corrosive antiseptic. . . ."

" . . . it is non-poisonous and can be employed with perfect immunity as a preservative"

The substance has the characteristic appearance, odor and taste of naphthol. It responded to all the tests of the United States Pharmacopeia for betanaphthol, with the exception of the melting point, which was found to be 119 C. instead of 122 C., an indication of impurity. It is evident, therefore, that Hydronaphthol is merely a trade-name for betanaphthol. While resublimed betanaphthol is listed at 10 cents an ounce, Hydronaphthol is listed at 75 cents an ounce.

Hydronaphthol thus furnishes one more illustration of the fact that most proprietary medicines for which the most extravagant claims are made are but old and well-known remedies sold under a fancy name at a price far in advance of that charged for the constituent or constituents. The exploiters are extremely positive in their statements regarding the non-toxic character of the preparation. Yet, as a matter of fact, betanaphthol is by no means harmless; it has been absorbed by the diseased skin with injury to the kidney and with fatal results. In some cases injury to the eye has also occurred. These toxic actions should be known to the practitioner. From 3 to 4 gm. (1 dram) applied to the skin has produced death (Stern: *Therap. Monatshefte*, 1900, p. 165). When a manufacturer advertises a preparation which possesses potentialities for harm, and especially when he puts it out under a name which conceals its identity, it is incumbent on him to warn the customer of possible injurious or inconvenient actions instead of proclaiming that the preparation is harmless.—(From *The Journal A. M. A.*, Sept. 3, 1910.)

HYDROZONE AND TONGALINE

Hydrozone

The moral principle governing the action of secret proprietary and patent medicine men is an unknown quantity; sometimes it would seem to be a negative one. Just how much lower in the scale of humanity a man can go than to prey on the fears of a people in the time of a terrible epidemic for the sake of a few dollars we do not know. There may be something more despicable, but what is it? Two weeks ago we referred to the cold-blooded methods of the Peruna people:

this week we reproduce an advertisement from the New Orleans *States* that tells another story of man's inhumanity to man.

This brings up the problem that we are trying to solve, viz.: "What is the difference between a 'secret proprietary medicine' advertised in medical journals to physicians and a 'patent medicine' advertised in newspapers to the public?" Hydrozone is being advertised in nearly all medical journals, and at the same time in newspapers. Where shall we place it? And

Hydrozone
is a
Positive Preventive of
Yellow Fever

A scientific, absolutely harmless germicide, universally indorsed and successfully used by the best physicians. You can absolutely safeguard yourself against the fever by taking a teaspoonful of Hydrozone in each tumbler of water you drink. Sold by best druggists. None genuine without my signature.

Charles Harchant

63 E Prince Street, N. Y.

FREE—Send for "How to prevent and cure disease" and special instructions how to avoid and cure **YELLOW FEVER**

if hydrozone, with the methods recently adopted to exploit it, is tolerated in the medical press, why not peruna?

Tongaline

Tongaline, too, is good for yellow fever if we are to believe the absurd claims made by its enterprising salesmen. Here is the advertisement from current medical journals:

Stegomyia fasciata has produced an epidemic of yellow fever in certain sections of Louisiana and adjoining states.

Stegomyia punctata has inoculated thousands with virulent malarial germs throughout the balance of the Mississippi Valley.

Tongaline, Meiller, in one of its forms as indicated, antagonizes and destroys the effects of these parasites on account of its extraordinary eliminative action on the liver, the bowels, the kidneys and the pores, whereby the poison is promptly and thoroughly expelled. For full literature, etc. (*From The Journal A. M. A., Sept. 23, 1906.*)

IODONUCLEOID

An Iodin Product Under a Misleading Name

Information has been frequently asked concerning Iodonucleoid, a product not included in New and Nonofficial Remedies. The Association Laboratory after investigating this preparation reported as follows:

This preparation was at one time considered for inclusion with New and Nonofficial Remedies, and at that time was examined in this laboratory. The examination showed that iodonucleoid contains:

Phosphorus.....	0.79 per cent.
Calcium	0.43 per cent.
(Equal to 0.6 per cent. CaO).	
Iodin	24.2 per cent.

When 2 gm. was dissolved in tenth-normal potassium hydroxid volumetric solution and acetic acid added until faintly acid, an abundant, white, flocculent precipitate formed. This precipitate was collected, washed with water, transferred to a beaker, phenolphthalein added and tenth-normal potassium hydroxid volumetric solution run in until a pink color was produced. This required 15 c.c. of tenth-normal alkali. Subtracting from the 2 gm. of iodonucleoid the 24 per cent. iodine, leaves 1.52 gm.; this divided by the c.c. of alkali used indicates an equivalent weight of 1013.

Authorities differ widely regarding the amount of phosphorus contained in nuclein from different sources, the figures ranging from 2.9 per cent. to as high as 10 per cent. If the nuclein from which iodonucleoid purports to be made contained but 2.9 per cent. phosphorus, the preparation, after allowing for 24 per cent. iodine, should still contain 2.2 per cent. phosphorus instead of the 0.79 per cent. found by analysis. A true nuclein should contain no calcium. If iodonucleoid is a casein compound of iodine we might expect to find, if the casein had been freed from milk by acidulation without further purification, both calcium and phosphorus. The equivalent weight of casein is given by Long (*Jour. Am. Chem. Soc.*, 1906, xxviii, 372) as 1124. This figure was obtained on a casein of high purity, and the figure of 1013 given above agrees fairly well with Long's figure for casein. The evidence, therefore, indicates that iodonucleoid is a compound of iodine and casein, and not a nuclein compound.

The findings of the laboratory were at that time submitted to Prof. John H. Long of Northwestern University, who said:

"We have also made a number of examinations of iodonucleoid. We determined in it the iodine and found the amount 24.2 per cent. by weight, which is a little more than that claimed by the manufacturer. We have also tested the solubility of this substance and find it to behave about as your laboratory did. As you know, we have been making a number of preparations from casein, and recently we have determined the combining power of casein with various acids, including hydriodic acid. This acid when evaporated in moderately strong solution with

casein yields finally a hard, dry mass, which may be ground up to a powder resembling very closely the preparation under discussion. Various amounts of iodine may be combined here, depending on the strength of the iodine solution used, and we have secured some containing over 35 per cent. of iodine. Several of these preparations resemble closely iodonucleoid, so far as solubility, appearance and reaction with alkalis on titration are concerned. I am unable, therefore, to distinguish this preparation from the casein compounds which we are making."

From this it would appear that iodonucleoid is not a compound of nuclein, as indicated by the name, but instead is a casein compound of iodine.

Iodonucleoid, then, seems to be another one of the many iodine "substitutes" which have been put on the market. Other iodine substitutes are Iodalbin, manufactured by Parke, Davis & Co.; Iodipin, manufactured by E. Merck & Co., and Sajodin, manufactured by the Farbenfabriken of Elberfeld Co. As these products have been examined by the Council and found eligible for inclusion with New and Nonofficial Remedies, physicians who wish to use substitutes for potassium iodide would do well to use them instead of a product presented under a misleading name. Physicians should understand, however, that these organic iodine compounds are non-irritating because the iodine is held in such combination that it is much less active. It seems probable that they are therapeutically active only to the extent that the iodine content is dissociated from the organic compound and converted into ionic iodine.

A discussion of a number of iodine substitutes is found in an article by von Notthafft (*Monatsh. f. Prakt. Dermat.*, Oct. 15, 1910, p. 343), which was abstracted and commented on in THE JOURNAL, March 4, 1911, p. 685. Von Notthafft believes that the lower degree of toxicity which these remedies exhibit has its basis in a feebleness of activity; either the substitutes evolve too little iodine or they split it off with greater difficulty. Physicians should, therefore, view with some distrust the claims of manufacturers that their products are not only non-irritating but at the same time possess unusual therapeutic efficiency. This will apply with especial force if there is any tendency to conceal the nature or origin of the combination.—(*The Journal A. M. A.*, July 22, 1911.)

IRIDIUM

Dr. C. A. Dexter, Columbus, Ga., asks for information concerning the use of iridium in the treatment of acute and chronic rheumatism. Iridium is a well-known element although we have not found that it has been used as a medicine; however, we presume our correspondent refers to "Iridium (Medicinal)," sold by the Platinum Company of

America. We are not able to locate this company, but in their advertising circular "Iridium (Medicinal)" is said to be "an agent for the blood, a laxative, an alterative, indicated in all disorders of the stomach, in Jacksonian epilepsy," and "a specific in rheumatism." As to its origin, it is said in the circular, "the platinum sands are associated with and composed of iridium" and some other elements, so that as far as the circular gives information the nostrum is alleged to contain the element iridium.

A few statements quoted from the circular will show that the person who wrote it knows nothing about medicine and cannot correctly use the English language: "The qualifications of Medicinal Iridium are its simplicity, purity, harmless under prolonged use, easily borne by the stomach." "It has been observed that when Medicinal Iridium acts as a laxative, it will regulate the same." "Called the family group, Iridium and Osmium are destined to become the world's benefactors in medicinal properties, thereby creating a new chapter in medical science." The circular quotes some supposed "excerpts from hundreds of letters on file, written by physicians, in the hope they may attract your attention," which bear marks of having been written by the same person who wrote the circular. Note the quality of the following statements: "Iridium has a power, purity and simplicity that pleases me; now I can make progress." "I say to you frankly, Iridium is my standard. I can get results and make progress. I am confident it aids the fibrin in the blood." "Dr. X. is pushing Iridium on five or six cases." It is not explained who Dr. X. is, but it has this to say about him: "Dr. X. is an eminent practitioner. He has made a remarkable record with Iridium and has so far never failed on cases of Jacksonian epilepsy; experimental tests have shown that Iridium increases blood-corpuscles."

The man who signs himself president of the Platinum Company of America is said to be a lawyer, but is not working at it, and was formerly a promoter, fiscal agent, etc. It should not be difficult for the physician to fix the status of iridium under this sort of exploitation.—(*From The Journal A. M. A., April 23, 1910.*)

IRON TROPON

The composition of Iron Tropon seems to have varied from time to time. The manufacturers formerly stated that it contained fat, sugar, pepsin and iron in organic combination with albumin, and its use was advocated both as a food and as a medicine. It was not claimed to contain over 1 per cent. of pepsin, but tests failed to show that it contained any pepsin, or if any, such a small amount that there was not sufficient to digest the albumin in Iron Tropon itself. It was

also claimed that the iron, being in organic combination with the albumin, possessed advantages over the widely used aromatic fluid preparations of iron. Tests, however, showed that the iron was not in organic combination, though even had it been, late investigations fail to demonstrate the superiority of the organic over inorganic iron compounds.

The manufacturers state in their later "literature" that Iron Tropon is a tonic and a food; that it is a compound of the food albumin tropon, 2.5 per cent. of iron in its most assimilable form, and enough chocolate to flavor it agreeably. It will be noted that they now make no claim for pepsin, nor do they state that it contains iron in organic form. In the dose recommended, a teaspoonful three times a day for an adult, the patient gets something over a grain of iron, and he might as well take an equivalent quantity of Bland's mass, the value of which has been proved.

As a food, Iron Tropon, weight for weight, is about equal to beans and a little better than flour, although it contains a larger percentage of protein than either. In the dose stated, an invalid would get about 50 calories, or about 1/40 the necessary nourishment for a day. Tests also have shown that the albumin is difficult of digestion. In spite of this fact, the advertisement of Iron Tropon states: "A patient who takes Iron Tropon receives not only the benefit of iron medication, but at the same time his economy is supplied with perfectly assimilable albumin in sufficient quantity." It will thus be seen that the claim for pepsin in this preparation has been abandoned, that the statement as to the iron being in organic form has been modified, and that the food value of the albumin is exaggerated; but perhaps the manufacturers do not expect the physician to apply his arithmetic to such problems.—
(From *The Journal A. M. A.*, April 23, 1910.).

JAROMA

A New Name for an Old Drug

It has been frequently pointed out that most nostrums contain well-known products as their essential constituents. These are often disguised under fanciful names and sold under extravagant claims and at exorbitant prices. As examples may be mentioned:

Cane sugar for curing tuberculosis (Hydrocine, Oleozone, Oxydase).

Milk sugar for hay fever (Plantoxine).

Epsom salt for "softening the skin" (Spurmax).

Boric acid for deodorizing purposes (Amolin deodorant powder).

About eighteen months ago the attention of THE JOURNAL was called to a preparation called "Jaroma," marketed by

the Jaroma Company of New York City, and advertised to physicians as a specific for sleeplessness. The general tone of the reading matter indicated that Jaroma probably belonged to the same class of humbugs as Oleozone and Plantoxine. As the efforts of the promoters at that time appeared to be devoted more assiduously to the sale of Jaroma Company stock than to the exploitation of the remedy, it was not considered worth while to make an analysis of the preparation. Recently, however, an advertising campaign for the sale of the remedy has been inaugurated both in the lay and to a limited degree in the medical press. A quarter-page advertisement has been appearing in medical journals often supplemented by a "reader" which still further sets forth the supposed merits of the nostrum. In the advertisements in the daily papers the assertion is made that Jaroma is indorsed by the medical profession and in support of this, parts of the "reading notices" from the medical journals are quoted. Once more then we have the edifying spectacle of medical journals lending their pages to the exploitation of a fraudulent "patent medicine" and aiding and abetting in humbugging the public.

One medical journal which carries advertisements for this nostrum describes Jaroma in part as follows:

"Recently a new hypnotic has become available to the profession and careful investigation seems to indicate that an ideal sleep-producer has been discovered. This new product, called Jaroma, is of vegetable origin and is obtained from a gum resin, in turn secured from narthex, a species of unbelliferous plant grown in provinces of Persia and Beloochistan. This gum resin from which Jaroma is prepared has long been used in the Orient for special purpose, while in Great Britain it has been successfully employed medicinally as an antispasmodic.

"Through the use of Jaroma in appropriate dosage, natural sleep is obtained from which in four to eight hours a patient awakens refreshed and vigorous. No after-effect is produced and this eligible remedy is totally devoid of any depressing or toxic action. Its full physiological effect can be obtained as long as necessary without having to increase the dose and it has no habit-forming tendencies."

The circulars accompanying the nostrum are evidently intended for the laity, as may be seen from the following:

"Are you nervous? Take Jaroma Vegetable Tablets."

"Can't you sleep? Take Jaroma Vegetable Tablets."

"Jaroma Vegetable Tablets, the new & wonderful specific for the 'AMERICAN DISEASE' NERVOUSNESS in its various forms."

"Jaroma is the needed special nerve food to counteract the special strain of modern American business and social life."

For the discovery of the Jaroma formula we are indebted to an eminent German Nerve Specialist who has had most gratifying results from this compound in his private practice."

Jaroma having gone to the medical profession its examination was taken up by the Association's chemists who reported as follows:

Narthex, the alleged source of Jaroma, is a nearly obsolete name for a genus of plants from some species of which the well-known drug asafetida is obtained. Physicians who are familiar with the origin or sources of drugs will have little

difficulty in recognizing this substance from the mysterious description given in the "readers" that appear in certain medical journals, while no one could fail in identifying it by breaking one of the Jaroma tablets!

It is put up in tablet form in packages to be retailed at 10, 25 and 50 cents, the 10-cent size containing two and the 50-cent size twelve of the tablets.

**A New
Vegetable Hypnotic**

Free from All Narcotic or Other Objectionable Effect.

JAROMA

(Comprising the sedative and hypnotic properties of the gum resin *Narthexa* and *capsicum*.)

A remarkably Effective Sleep-Producer, containing no opiates, chloral, coal-tar or other depressing or habit-forming drugs.

**INDICATED IN INSOMNIA
FROM ALL CAUSES**

JAROMA produces natural refreshing sleep, lasting several hours, from which the patient awakens rested and strengthened with none of the languor or depression common to other hypnotic drugs.

For further information and liberal samples address:

**JAROMA COMPANY, 89 Fulton St.
New York City**

In your reply kindly mention this Publication.

When writing Advertisers, please mention

CAN'T YOU SLEEP?

Jaroma, a New Discovery Indorsed by the Medical Profession, Contains No Opiates, Morphine or Other Habit Forming Drugs.

For those who are troubled with insomnia or sleepless nights the great danger lies in their resorting to remedies that contain morphine, opiates or other poisonous and habit forming drugs. These are the remedies physicians were obliged to prescribe before the remarkable results obtained from Jaroma, a purely vegetable tablet, became known to the profession.

The Medical Council, one of the leading medical journals of this country, printed the following in June (1911) under treatment of insomnia:

"TREATMENT OF INSOMNIA

"Insomnia or sleeplessness is an affection which must have earnest and immediate treatment. It very often means a serious breakdown if the patient is not quickly relieved. But, unfortunately, most of the hypnotic remedies have seriously objectionable features, such as tendency to narcotism, depression, secondary stupor, habit forming, etc.

"All this has now been eliminated by a new hypnotic called Jaroma. It is of vegetable origin and is obtained from a gum resin secured from an unbelliferous plant grown in Persia, Beloochistan.

"Through the use of Jaroma natural sleep is obtained; from which the patient awakes in four to eight hours refreshed and vigorous. It has no habit-forming tendency, nor is it necessary to increase the dose on prolonged usage. It is free from all opiates or other dangerous drugs."

We advise that you write to the Jaroma Co. of New York for a booklet recently issued upon the subject of insomnia or sleepless nights. It is thoroughly interesting, well illustrated and is sent free upon request. The demand for Jaroma, owing to the public endorsement of the medical press, has naturally become tremendous.

Druggists sell it at 25c and 50c per

Photographic reproduction (reduced about one-half) of typical advertisements of Jaroma. On the left is the advertisement that has appeared in such medical journals as the *International Journal of Surgery*, *American Medicine*, *Medical Council*, *American Journal of Clinical Medicine*, and possibly others; on the right is a typical newspaper advertisement. This particular one appeared in the *Buffalo Evening Times*.

Qualitative tests demonstrated that the medicinal portion of the tablets consists of asafetida, calcium sulphate (gypsum) and powdered capsicum, the greater proportion consisting of the two former ingredients. The absence of hypnotic alkaloids, bromids and chloral was demonstrated and other

hypnotics such as diethyl-barbaturic acid (veronal) and sulphonmethane (sulphonal) were not found. Although no exact quantitative separations were made it is believed that a tablet containing asafetida 3 grains, gypsum 2 grains and capsicum 1/10 grain, would have properties similar to Jaroma. As gypsum has been frequently employed as an adulterant of asafetida the analyst has no means of demonstrating whether the calcium sulphate found in the tablets had been added as a "make-weight" or whether it is a part of the "formula" of the "eminent German Nerve Specialist."

Thus according to the chemists' report this "new vegetable hypnotic" and "special nerve food" is, essentially, asafetida. Although in rational medicine no hypnotic powers are claimed for this drug it is often prescribed in certain forms of hysteria, while as a condiment, it has been known and used from prehistoric times. Therefore, the only new thing about the stuff is its name and the fraudulent use to which asafetida is put. Jaroma is another of those nostrums which are used to humbug both the public and the medical profession.—(*From The Journal A. M. A., Sept. 2, 1911.*)

KUTNOW'S POWDER

Which is It, a "Proprietary" or a "Patent Medicine"?

The term "patent medicine" has been applied, rather loosely, to those nostrums sold and exploited directly to the public, while the name "proprietary" has been given such preparations as are advertised only to the medical profession. As has been many times exemplified by reports in *THE JOURNAL*, the distinction is often a very fine one and the dividing line frequently reaches the vanishing point.

It is not unusual, for instance, for "proprietary" preparations to be foisted on the medical profession until a certain number of testimonials (of doubtful value, it is true, but still testimonials) have been ingeniously wheedled out of physicians and the product rather generously prescribed. When this objective point has been reached the manufacturer comes into the open and advertises the nostrum to the public direct and the testimonials previously given for the "proprietary" are used as advertising assets for the "patent medicine."

Then again there are certain preparations which are "proprietary" or "patent medicines" according to the location. On one side of the Atlantic the product is advertised to physicians only, while on the other side it runs indiscriminately on the billboards and in the newspapers. One of the best examples of this last class is Kutnow's Powder. In England, where it originated, this preparation which "dissolves and eliminates uric acid," is consistently lined up with Beecham's

Pills and Pink Pills for Pale People. Full-page newspaper advertisements announce the fact that free samples will be

"SENT TO ALL APPLICANTS"

In the United States, however, Kutnow's have learned from their wide advertising experience that a cheaper and surer way of introducing a nostrum to the public is to advertise it to the medical profession only. By means of advertisements in medical journals (whose space is much less expensive than that of the daily papers) and the liberal distribution of samples which are

"SENT FREE TO PHYSICIANS ONLY"

WEEKLY ADVERTISER
JAN. 11, 1908

PEARSON'S WEEKLY ADVERTISEMENT SUPPLEMENT.

589

ARE YOU SURE YOUR KIDNEYS ARE HEALTHY?

TO FLUSH THE KIDNEYS

We are all liable to derangement of Kidney function, it steals on us unawares. The Kidneys are the most important organs of the human body. They are the little governors of our well-being and comfort. If clean and free from acid poison we are energetic and happy. If clogged up with gravel and poisonous sediment we are one of the hundred of serious diseases. If you have a blocked drain pipe you cannot do it by a process of building. You must apply the same hygienic principles to the kidneys and bladder. You must adopt Professor Levan's Kidney remedy and use Kutnow's Powder, which flushes and cleanses the kidneys and bladder of all debris. You will then avoid Bright's disease, gravel and stone, which come gently and painlessly. Kutnow's Powder does not contain any sugar, and is therefore useful in diabetes. This acid is the chief cause of Rheumatism, Gout and other kindred diseases. Kutnow's Powder is not only a perfect solvent of uric acid, but it eliminates all excess from the system. No one, ill or well, ought to be without their morning dose of Kutnow's Powder. May we send you a package free of charge?

TAKE KUTNOW'S POWDER

Are you willing to let Kutnow's Powder in order to judge its beneficial effect?
Would you like to be free from distressing headaches and nervous sensations?
Is it your wish to keep the system clean and free from poisonous deposits?
Do you know that Kutnow's Powder will rid you of dyspepsia and liver troubles?
Is it your wish to have a clear, healthy-looking complexion, a good skin free from pimples, blackheads and blemishes?
If you will hardly fail in the future before we will send you sufficient of the remedy to thoroughly test it, free of charge.

A FREE TEST.

SIGN THIS FORM.

Cut out and send to R. KUTNOW & CO. Ltd., 41 Farringdon Road, London, E.C. By return of post you will receive this famous remedy free of charge.

(WRITE SHORTLY.)

Name _____

Address _____

Postmark _____

Printed Name in Full _____

This form, postmarked on your envelope, requires only 4d. stamp.

TEST IT, FREE OF CHARGE!

Rev. F. L. Bullen

WITNES:

"Walsley, Church Lane, Loughborough, Leicestershire."
"I only wish I had tried Kutnow's Powder years ago. In my case it has proved to be an agreeable and gentle aperient, clearing the liver and kidneys, removing the basis of any symptoms of pain or discomfort, and regulating generally the whole organic system."

Mrs. A. L. Whalley

WITNES:

"62 Hoxsey Road, Ashfield, Liverpool."
"2nd September, 1908."
"Dear Sir,—I have tested the sample of Kutnow's Powder which you so kindly sent me, and cannot thank you sufficiently for the power of good it has done me. I have recommended the Powder to several friends and relatives."

How to Avoid Fraud

The genuine Kutnow's Powder can be had of all chemists at 1d. per packet, or direct from Kutnow's London Office for 1s. per packet to the United Kingdom. See that the trade name appears, "R. Kutnow & Co. Ltd." and the registered trade mark, "Hirchenschlag" on their "Leap" on the package and bottle. You then get

Genuine Kutnow's Powder

KUTNOW'S POWDER PREVENTS KIDNEY DISEASE

For a Free Sample write to S. KUTNOW & CO. Ltd., 41 FARRINGDON ROAD, LONDON, E.C.

the medical profession becomes the unpaid "barker" for the nostrum manufacturer. At present, therefore, Kutnow's Powder is—in the United States—an ethical (!) "proprietary."

There exists in this country, as most of our readers know, an organization of "patent medicine" manufacturers whose "reason for being" is to get full value received for the \$40,000,000 paid annually in advertising nostrums in the newspapers of the country. This organization is known as the Proprietary Association of America. The now familiar "red clause" in the advertising contracts by which the newspaper forfeits its contract if state laws are enacted that are inimical to the "patent medicine" interests, is a creation of this organization

and has been most effective in making the newspapers the unpaid lobbyists of the nostrum interests. The "silence clause" is another "joker" in the contracts by which the agreement is cancelled if matter detrimental to the nostrum "is permitted to appear in the reading columns" of the paper. It is little wonder that with such weapons the "patent medicine" manufacturer has assumed an arrogance that is as disgusting as it is serious.

Great Britain, too, has its "patent medicine" men's organization, which is known as the Proprietary Articles Trades Association. Of both these honorable bodies Mr. S. Kutnow of Kutnow Brothers, Ltd., is, or was, a conspicuous member. At a recent meeting of the British organization, Mr. Kutnow worked himself into a fine frenzy of indignation because of some articles that had appeared in the *Pharmaceutical Journal* of London on the subject of "Secret Remedies and Proprietaries." As these articles did not specifically mention Kutnow's Powder, and as evidence was directed against only those preparations as were most disreputable, it is evident that Mr. Kutnow now appraises his own product at its face value. He gave his opinion of the *Pharmaceutical Journal* and told the meeting that when the advertising man for that journal solicited advertising he refused to have any more dealings with him owing to the articles that had appeared in the *Pharmaceutical Journal*. He declared that he was quite independent of any newspaper or journal, and was able to take care of himself.

Therein Mr. Kutnow is mistaken; he is not independent of newspapers and journals. On the contrary, he, and others of his ilk, are most subserviently dependent on them. Let reputable papers and medical journals refuse, for but one year, to carry the high-flown advertisements of his Anglo-American Patent-Proprietary, and his firm would perforce seek some worthier, if less profitable, line of business.

The editor of the *Pharmaceutical Journal* resents Mr. Kutnow's "implied assumption that by inserting paid announcements in the advertising columns of a newspaper, he or any one else, can dictate the policy of that organ."

"The *Pharmaceutical Journal*, it should be said, is the official organ of the Pharmaceutical Society of Great Britain, and is the most influential organ of the drug trade in the British Isles. It is refreshing to note, in these days of "canned" editorials and paid "write-ups" masquerading as original articles, that there is still to be found a journal that can not be bought.

One wonders whether a large experience in the advertising world, and especially his membership in the Proprietary Association of America, has unconsciously led Mr. Kutnow to assume that muzzling the press is one of the perquisites of the large purchasers of advertising space.—(From *The Journal A. M. A.*, Aug. 31, 1907.).

LYSOL—THE EVOLUTION OF A PROPRIETARY

Regarding certain proprietary preparations and their equivalents found in pharmacopeias or other standard works of reference, it is often questioned whether the proprietary is the original and the official preparation the imitation, or vice versa. As a general proposition, medicinal compounds and preparations are not born but evolved, as in the case of epinephrin, in which the credit of discovery belongs to no one person, but to several.¹ So it is often the case that the proprietary and official preparations may be based one on the other, while both are usually based on some preparation which antedates them. This is well illustrated by the proprietary preparation Lysol, the practical equivalent of which—liquor cresolis compositus—is official in the United States Pharmacopeia. After the discovery of phenol (carbolic acid) and the recognition of its germicidal value, it was gradually learned that other phenolic compounds occurring in the crude distillates from tar and wood were more efficient and less poisonous than phenol (carbolic acid). When this was discovered, attempts of course were made to utilize these higher and more efficient phenols, which meant that their insolubility in water had to be overcome. In these attempts there were efforts to form new compounds as well as a search for simple solvents. While the first failed, because these compounds were less efficient than the phenol from which they were made, a simple solvent was found in soap. The first attempt to utilize the solvent power of soap gave creolin, a mixture of the so-called crude carbolic acid (really containing but little phenol and consisting largely of higher phenols along with inert hydrocarbons) with soap. This was followed in 1884 by Schenkel's discovery that a portion of this "crude carbolic acid" could be made soluble in water by treatment with soap. Schenkel was refused a patent on the ground that any soap manufacturer should be permitted to add phenol to his soap, but in 1889 a patent for a cresol-soap solution was granted to Damann, who used cresol, a constituent of "crude carbolic acid." The preparation was put on the market and has since been widely advertised under the proprietary name "Lysol."² It is thus seen that Lysol is a good example of the way in which manufacturers appropriate the discoveries of others, develop them and turn them to proprietary use.

The ill-deserved patent protection for Lysol happily expired long ago and the product can now be made by anyone. In view of the non-descriptive character of the name "Lysol" and the danger in using such names in connection with potent and poisonous remedies, this cresol-soap solution has been admitted to pharmacopeias, not under the original name

1. THE JOURNAL A. M. A., March 25, 1911, pp 901, 910.

2. Pharm. Ztg., Oct. 14, 1908, p. 817.

"Lysol," but under descriptive names such as that in the United States Pharmacopeia—"liquor cresolis compositus."—*(From The Journal A. M. A., Dec. 14, 1912.)*

"MAIGNEN PULV."

One of the "side-shows" which interested the throng on the Board Walk at the last meeting of the American Medical Association at Atlantic City was the exhibition of a "wonderful" antiseptic, germicide and cure-all whose virtues (?) were demonstrated by means of the microscope. An investigation showed that the individual in charge took a drop from a bottle containing water, hay and some living infusoria, placed it under the microscope on a slide and then allowed a solution of the "wonderful" remedy to run under the slide, when, *mirabile dictu*, the poor delicate, harmless infusoria shriveled up into formless masses. The whole thing was so absurd and the fake so transparent that the subject was dismissed without further thought by physicians, even though the "show" had been set up close to the Exhibition Hall with the evident intent of attracting the medical profession. It appears, however, that the "remedy" is being exploited to physicians in earnest, and queries are being received from physicians regarding this palatable humbug. For this reason we present the following brief discussion of the preparation:

Maignen Pulv. is exploited by J. P. Maignen, Philadelphia, and we are told is "prepared for the physicians by the chemists of the Maignen Institute." An advertising circular tells us that Maignen powder is:

"... a combination of harmless mineral salts, whose individual bactericide power is low in the scale of antiseptics, but whose collective power is very high, by reason of the reactions which take place between the different salts in a moist environment."

The use of this powder is recommended for a long list of diseases and for application in various ways to lesions of the skin and subcutaneous tissues and to the various mucous membranes of the body. The circular gives a report of the Lederle Laboratories of New York which shows the material to possess a germicidal power 3.75 times as great as that of phenol! The circular says:

"In ordinary Stomach Troubles give the patient, whenever distressed, a cup of hot water with half the amount of powder lifted on a dime. This will correct the acidity, stop the production of toxins, and bring the mucous membrane to normal."

What are the harmless mineral salts from the interaction of which a powerful germicidal effect is obtained? Analysis made in our chemical laboratory showed the powder to be apparently a mixture, consisting largely of calcium oxid or hydroxid and sodium carbonate, which on treatment with water results in a mixture containing calcium carbonate and the strongly alkaline sodium hydroxid.

Thus this "discovery" makes use of the well-known operation of leaching a mixture of ashes and lime to procure lye, except that in this case sodium carbonate is used instead of the potassium carbonate of the ashes. The germicidal powers of strong alkalies have long been known, but the inconvenience of their application to tissues and mucous membranes has prevented their use. That they will be of service when sufficiently diluted not to irritate the tissues is improbable, for the antiseptic power of such solution is slight and the disinfectant value practically nil.

The recommendation for internal use is absurd when we consider that the dose called for ("half the amount of powder lifted on a dime") corresponds approximately to an amount of alkali sufficient to neutralize the acid in 100 c.c. of ordinary stomach contents. This quantity is less than that present after an ordinary meal. If the patient should happen to have just that amount in the stomach, his symptoms from acidity would be relieved, but he would have neither hydrochloric acid nor alkali to prevent fermentation; but usually the amount of stomach contents is much greater than this and the acid would be only partially neutralized by the medicine, which, having lost its alkalinity, has also lost its disinfecting power. The other claims made for this wonderful powder present a similar disregard of the conditions under which it is to be applied.

It is evident that neutralization with an acid will completely abolish the germicidal power of this preparation. As soon as it is taken into the acid stomach it has no more power to destroy germs than so much salt. In view of this it would appear that the medical profession will have to look elsewhere than to Maignen Pulv. for a treatment of such diseases and ailments as diphtheria, laryngitis, whooping-cough, stomatitis, tonsillitis, mastitis, intestinal catarrh, cholera, typhoid fever, cholera morbus, enteric fever, dysentery, leprosy, tuberculosis, conjunctivitis, ophthalmia neonatorum, anthrax, epithelioma and gastric catarrh, for all of which it is recommended.—(*From The Journal A. M. A., Feb. 15, 1913.*)

MANOLA

Physicians as Unpaid Pedlers of Nostrums

One of the most disheartening features of the fight against the proprietary evil within the profession is the slowness with which physicians awake to their responsibilities in the matter. It is a notorious fact, familiar to physician and advertising man alike, that the simplest and cheapest way to introduce a nostrum to the public is through the instrumentality of the medical profession. Ever since the birth of the proprietary evil in this country, shrewd manufacturers have persuaded doctors to act as unpaid pedlers for their wretched nostrums

and to become *particeps criminis* in the exploitation of such wares.

Manola is an alcoholic nostrum with just enough more or less inert medicinal products added to exempt it from the internal revenue tax, but not enough to prevent it being used as a tippie by those who object to taking their "toddy" in a simpler form. It is prepared by the Luyties Pharmacy Company of St. Louis, a homeopathic concern whose hahnemannian leanings are not so strong but that it is willing to cater to the various sectarian schools of medicine as well as to the regular profession. Since the promoters realize, doubtless, that to put this stuff out under a homeopathic label might not be conducive to stimulating physicians' confidence, Manola is labeled: "Prepared only by the Manola Company, St. Louis." In other words, it is the old dodge of forming subsidiary companies for the purpose of hiding the identity of the real owners. In this connection, it is worth reminding our readers, incidentally, that the Walker Pharmacal Company, St. Louis, is another subsidiary concern of the Luyties Pharmacy Company, created for the purpose of pushing another nostrum—Hymosa.

Manola is seldom advertised in medical journals. Instead the Luyties Pharmacy Company has discovered a more effective method of "putting one over" on physicians and druggists. The method which has been pursued for years and which, under the same title and subtitle that head this article, was exposed in THE JOURNAL as long ago as May 6, 1905, consists in sending to physicians a letter containing three postcards—unstamped, of course. With the postcards there is a slip that reads:

INSTRUCTION FOR OBTAINING
3 BOTTLES OF MANOLA FREE

Dear Doctor: Fill out the attached cards Nos. 1 and 2. Mail No. 1 to us and hand Nos. 2 and 3 to *your druggist*. Impress upon him the necessity of mailing postal card No. 3 *direct* to us, and not to his jobber.

Yours truly,
THE MANOLA COMPANY.

The postcards are numbered, respectively, 1, 2 and 3. Here is No. 1:

<div style="border: 2px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">1</div> </div>	Mail This Card to the Manola Co., St. Louis, Mo.
<p style="text-align: right;">Date _____ 19__</p> <p>THE MANOLA COMPANY St. Louis, Mo.</p> <p>Gentlemen:</p> <p>I have requested Mr. _____ druggist, to order one dozen bottles of MANOLA for my prescriptions. Please include with his order three bottles for me, as per your offer.</p> <p style="text-align: center;">DR. _____ CHICAGO ILL.</p>	

Dr. Ezymark writes the name of his druggist on Card 1, puts a stamp on it and mails it to the Manola Company, alias Luyties Pharmacy Co.

Card 2, addressed to his druggist, also is filled out by Dr. Ezymark. Here it is:

2	Please Hand This Card to Your Druggist
Mr _____	Druggist _____
<p>Please order of the Manola Company, St. Louis, Mo., <u>1 dozen</u> bottles of <u>Manola</u>, all of which I agree to prescribe in my practice. By filling out card No. 3 and forwarding it to the Manola Company, St. Louis, Mo., they will include for me, with your order, three bottles of Manola, free, for clinical purposes.</p> <p style="text-align: right;">Yours truly,</p> <p style="text-align: right;">_____ M. D.</p> <p>Town _____</p>	

Then the doctor, acting the part of errand-boy, delivers Card 2 and also Card 3 to his druggist. Here is Card 3:

3	PLEASE FILL OUT AND MAIL THIS CARD TO THE MANOLA CO., ST. LOUIS, MO., NOT TO YOUR JOBBER
<p style="text-align: right;">Date _____ 19____</p> <p>THE MANOLA COMPANY, St. Louis, Mo., Gentlemen:</p> <p style="padding-left: 40px;">Please ship ^{me} _{us} as per your offer</p> <p>1 dozen MANOLA _____ at \$8.00 per dozen.</p> <p>¼ dozen MANOLA, free, for Dr. _____</p> <p>Ship through my jobber: _____ Signed _____ Druggist.</p> <p>M _____ Town _____</p> <p>Town _____ State _____</p> <p>State _____ State _____</p>	

This, Mr. Goat, the druggist, has to fill out, affix a stamp and send to the Manola Company. In return for all this, Mr. Goat has his shelves loaded up with a dozen bottles of Manola and, for that privilege pays \$8 out of his own pocket. Dr. Ezymark gets three free bottles. Incidentally, he also gets the contempt of his druggist—and of such patients as learn of it.

The only one who profits by all this is the Luyties Pharmacy Co., alias the Manola Co., alias the Walker Pharmacal Company.

Evidently this method of exploitation pays; that it does pay is a disgrace to the medical profession. To those physicians who have in the past acted as pedlers for Manola we would say: If your patients really need sherry wine let them purchase it under its own name and at the ordinary market price. You will then know what they are getting and you will be able to retain not only your own self-respect but also the respect of your druggist and the public.

The Composition of Manola

Examination of Manola in the Association laboratory indicates that its composition is consistent with its origin, for its medicinal ingredients are present in truly homeopathic quantities. The laboratory report follows:

An examination of an original bottle of Manola gave the following results:

Specific gravity at 25 C.....	1.0329	
Alcohol	18.00	per cent. by vol.
Non-volatile matter (residue on evaporation)	15.93	gm. in 100 c.c.
Ash .....	.96	gm. in 100 c.c.
Phosphoric pentoxid (P_2O_5).....	.0668	gm. in 100 c.c.
Total alkaloids .....	.0047	gm. in 100 c.c.
Calcium	Traces.	
Magnesium	Traces.	
Iron	Traces.	
Sodium	Traces.	
Arsenic	Traces.	

Manola is a light amber colored liquid having the odor and taste of sherry wine. The above analysis indicates that it is nothing more than wine, fortified with alcohol and a slight amount of medicinal substances added. The non-volatile matter appears to be nearly all sugar, glycerin, or some similar substance and the presence of less than one gram of ash to 100 c.c. excludes the presence of more than a small amount of organic salts. From the amount of phosphorus found there appears to be about one dose of phosphoric acid to a twenty-ounce bottle. Arsenic is present in such small amounts that the ordinary hydrogen sulphid test failed to show its presence and the delicate Gutzeit's test had to be used to detect it.—(*Modified from The Journal A. M. A., April 2, 1910.*)

MARIENBAD TABLETS

The Commercial Value of a Name

What potentialities exist in a name! The great watering places and health resorts of Europe are household words and their names compel attention. Hence, when a physician receives in his mail a package bearing a foreign postmark and an unusual looking stamp, with the name "Marienbad" on the enclosure, he may possibly restrain his first impulse, born of experience, to throw the "sample" into the waste basket. He may be excused for expecting to find something of unusual

merit in a medicine elaborated at such a world-renowned health resort as Marienbad. Especially is his enthusiastic expectancy pardonable when he learns that "Marienbad Tablets" are "prepared according to the prescription" of an individual with the imposing cognomen, "Prof. Dr. Med. Chevalier de Basch."

Then, too, accompanying the "sample" is a circular descriptive of the virtues of this great medicine, printed in parallel columns of massive German and picturesque English. In it he is informed that the "Marienbad Tablets act mildly, without pain on the bowels, and consequently effect their evacuation." Great stress is laid on the advantage of the "tablet-shape" which makes possible the "offering of a perfectly equal dose of the efficacious ingredients" and simplifies the administration "on account of their compendious shape." "Marienbad Tablets," he is told, are unexcelled for the treatment of that condition recognized by all physicians as "sanguiness and its after-effects, such as vergitiousness," and they are highly recommended in cases of "arteriosclerosis." As a sop to Cerberus, the circular suggests "the diagnosis should be made by the physician," the assumption being that the proprietors of "Marienbad Tablets" will take care of the treatment while the prognosis will naturally take care of itself.

And the composition of this "compendious" cure for "sanguiness" and "vertigiousness"? Well, if carefully looked for, the physician will find that "Marienbad Tablets" consist of extract of aloes, powdered rhubarb, podophyllin, extract of cascara sagrada and extract of belladonna. That is all; just a simple cathartic tablet such as physicians are prescribing for their patients daily. They do not even contain a picturesque, pharmacologic nonentity like cactin or "latalia rad." Wherein, then, lies the special virtue of their "efficacious ingredients"? We are forced to the conclusion that this must reside in the psychic effect produced by taking a silver-coated tablet from a gilt-trimmed box, labelled "Marienbad," rather than in the essential contents of the tablets themselves.—
(From *The Journal A. M. A.*, July 18, 1908.)

MERCOL

R. Hunt and A. Seidell, Washington, D. C., report the result of an examination of a preparation called Howell's Mercol, manufactured by H. B. Howell & Co., Ltd., New Orleans, and claimed to be a 1 per cent. solution of mercuric iodid in a non-irritating neutral menstruum, and recommended for hypodermic use in the treatment of syphilis. Their examination indicates, as they say, "that although the manufacturers of Mercol may have used a mercuric iodid in its preparation, they have not succeeded in obtaining a 1 per cent. solution

of this compound in their 'non-irritating neutral menstruum.' It is furthermore evident that the sample examined as above outlined contains none, or at most, only traces of biniodid of mercury." It is stating it mildly to say that a manufacturer is careless who claims to make an efficient preparation of what is almost a specific for one of the most serious of diseases but which contains practically none of the essential active ingredient.—(*Abstracted from The Journal A. M. A., Jan. 16, 1909.*)

The Component Parts and the Finished Product

After the appearance of the first article, a physician wrote stating he had seen Mercol manufactured, following the process in detail and had himself weighed out a sufficient quantity of mercuric iodid to produce a 1 per cent. solution. He protested that the firm "had no desire to foist on the medical profession or the public a fraud." With his letter he sent a sample of the particular batch of Mercol which he had seen manufactured. This sample was analyzed with the same care and thoroughness that the previous sample had been, and the practical absence of mercuric iodid was again demonstrated. While THE JOURNAL does not question the honesty and good faith of either the manufacturers or the physician it maintains that claims for remedial agent should be based on the finished product rather than on the component parts used in its manufacture. Without attempting to explain what has become of the mercuric iodid, it insists that the important fact, and the one that vitally concerns both patient and physician, is that the finished product fails to contain it. If the manufacturer has made an honest mistake in supposing he could produce a 1 per cent. solution of mercuric iodid in liquid petrolatum, he will doubtless see that the mistake is corrected. If, on the other hand, he is governed by commercial considerations only, the misrepresentation will probably be perpetuated.—(*From The Journal A. M. A., May 15, 1909.*)

MIDOL AND NURITO

Pyramidon Entering the Patent-Medicine Field

Repeated warnings to the public of the dangers of acetanilid, antipyrin and acetphenetidin and the requirement in the Food and Drugs Act which makes it obligatory to declare the presence of acetanilid and acetphenetidin on the labels of "patent medicines," have been responsible for the growing unpopularity of nostrums containing these drugs.

MIDOL

During the past few months advertisements have appeared in the newspapers of a new "headache cure," the advertising slogan of which is that it "contains no acetanilid or phenacetin."

The name of this preparation is Midol and it is sold under the following claims:

"Instantly relieves headache, neuralgia, toothache."

"Has no depressing effect."

"More effective than antipyrin, acetanilid, phenacetin or similar pain-relieving products."

"Midol is the one safe-to-take aid of sufferers of headache."

"Quickly relieves pain of whatever nature."

"There is no cumulative action."

"No bad effect upon the heart or other organs."

An original package of Midol was purchased and examined in the Association's laboratory. The chemists' report follows:

"Midol is sold in the form of white tablets each weighing, on an average, 0.425 gm. or about six and one-half grains. The tablets are soluble in water, chloroform or benzene to the extent of about 80 per cent. The soluble portion appeared to be largely composed of starch, with about 4.5 per cent. of some inorganic matter, probably talc. The chloroform soluble portion was found to consist chiefly of pyramidon chemically known as dimethyl-dimethylamino-pyrazolon. Besides pyramidon, the chloroform soluble matter contained a small quantity of caffein and may have contained small amounts of other substances.

"From examination it is concluded that Midol depends essentially on pyramidon for its therapeutic effect."

Pyramidon is a proprietary preparation derived from, and having the antipyretic and anodyne properties of, antipyrin. While some observers have asserted that it is more likely to cause collapse than are either antipyrin or acetphenetidin there is no positive evidence of this assertion. That the use of pyramidon has been until recently practically restricted to physicians may account for the fact that its toxic effects are not as well known as are those of antipyrin, acetphenetidin, acetanilid, etc., which for some years have been indiscriminately used by the public. As the use of pyramidon as a "patent medicine" now bids fair to become as general as the better known antipyretics, it is probable that its toxicology will become better known.

It is interesting to note that pyramidon in the form of Midol is put on the American market by the General Drug Company, which also acts as a distributor of salvarsan ("606"). The General Drug Company is said to have for its president, W. M. Hoge, who was formerly employed in the comptroller's office during the administration of Herman A. Metz. The vice-president and treasurer of the General Drug Company is Dr. Gustave P. Metz, brother of H. A. Metz, the latter being employed by the Consolidated Color and Chemical Works and being president of Victor Koechl & Co. The General Drug Company, in its price list to physicians, lists the "ethical proprietary" pyramidon, but contains no mention of its "patent medicine" Midol.

NURITO

Midol is not the only "patent medicine" in which pyramidon is the essential drug. Nurito, which is advertised as "not a patent medicine but a proprietary preparation" is a nostrum put on the market by the Magistral Chemical Co., New York. Here are some of the claims:

"Only U. S. P. ingredients are used in Nurito."

"Guaranteed to relieve or your money refunded, Rheumatism, Sciatica, Neuritis."

"There is no compound known in medicine that so rationally, scientifically and effectively removes waste and poisons from the human system as Nurito."

The Association's laboratory recently analyzed a specimen of Nurito. The report follows:

A dollar-size package of Nurito was purchased and found to contain seven powders. The powders ranged in weight from 9 to 12 grains, the average weight being nearly 11 grains. The presence of pyramidon, phenolphthalein and milk sugar was demonstrated. Alkaloids, acetanilid, acetphenetidin, chlorids, bromids, iodids, heavy metals, starch and sulphates were absent. Quantitative examination indicated that the composition of Nurito is essentially as follows:

Milk sugar	34 per cent.
Phenolphthalein	6 per cent.
Pyramidon	60 per cent.

Each powder, therefore, contains about $2\frac{2}{3}$ grains of milk sugar, $\frac{2}{3}$ of a grain of phenolphthalein and $6\frac{2}{3}$ grains of pyramidon.

What was said of pyramidon in the preceding article applies equally well here. The claim that Nurito is composed of "U. S. P. ingredients" is evidently a falsehood. The chief therapeutic ingredients are pyramidon and phenolphthalein, neither of which is described in the United States Pharmacopeia.—(From *The Journal A. M. A.*, Aug. 10, 1912.)

NARKINE

The Intangible Product of the Tilden Laboratory

A little book, published by the *Druggists Circular*, and called "Modern Materia Medica," gives in dictionary form the information regarding new remedies which that journal publishes in its monthly issues. Such information is not always acceptable to the manufacturers of various preparations of doubtful value. A case in point is brought to notice with reference to a remedy called Narkine, put out by the Tilden Company of St. Louis. In this little book the following appears:

"Narkine is described as 'an opium preparation from which all deleterious qualities have been eliminated'; an unsupportable claim, as all opiates and other hypnotics are essentially deleterious."

The Tilden Company wrote to the *Druggists Circular*, stating that they guaranteed Narkine "to be absolutely free from coal-tar or opium derivatives," yet the "literature" of the company describes it as

"a specially prepared product of opium devoid of the nauseating and disagreeable properties of this drug, yet possessing the anodyne and soporific principles of same in the highest degree."

To remove from opium all its derivatives and yet retain the anodyne and soporific principles attached to nothing in particular, indicates a degree of pharmaceutical skill seldom attained. One is irresistibly reminded of the Cheshire cat in "Alice in Wonderland," whose smile remained long after the cat had vanished.

The absurdity of the thing, however, has apparently not occurred to many physicians, for these disembodied spirits of the pharmacologic world are evidently being prescribed.

The *Druggists Circular* is to be congratulated on exposing this latest pharmaceutical freak. It does so in a rather striking manner by means of photographic reproductions of the claims of the Tilden Company.—(*From The Journal A. M. A., Oct. 24, 1908.*)

OXIDAZE—OLEOZONE—HYDROCINE

In 1907, a "consumption cure" was put on the market under the name, Hydrocine. Hydrocine was called—at first—a "hyper-oxidized hydro-carbon;" later, it was referred to as an "oxidized carbo-hydrate." It was analyzed by the Association's chemists, who reported that they found that "each 29.5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin." This preparation seems to have originated with a C. E. Getsinger who organized what was known as the Medical Food Company. The commercial possibilities in selling an odoriferous sugar mixture as a "consumption cure" apparently appealed to one Charles S. Roberts, a physician of Syracuse, N. Y., who, with the help of Charles H. Goddard and others, incorporated the Hydrocine Company for the purpose of exploiting Getsinger's "treatment." Goddard, it may be mentioned in passing, was the man who organized that cooperative "patent medicine" concern known as the A. D. S.—American Druggists Syndicate.

Getsinger and Roberts later seemed to have had a disagreement and Getsinger marketed his own product under the name of Oxydase. Roberts changed the name of Hydrocine to Oleozone and apparently had the stuff made by the A. D. S.—or at least it bore the same serial number as that given the A. D. S. products. Coincident with these changes in the name of

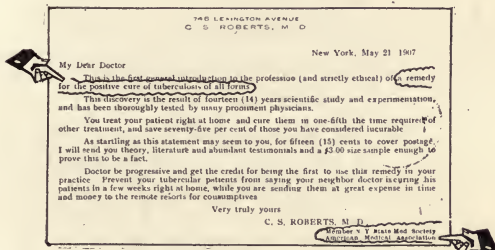
the "hyper-oxidized hydro-carbon," another concern came into existence—the Cowles Institute, said to be operated by one H. L. Cowles. This also dispensed "oxygenated products" for the cure of consumption. A little later Cowles seems to have changed the name of his concern to the Hemavitæ Company and to have rechristened his product, Hemavitæ.

The latest change (March, 1911) in the name of Getsinger's product is, Oxidaze put out by the American Oxidaze Company.

The matter which follows is a reprint (slightly modified) of the articles that have appeared in THE JOURNAL of the American Medical Association, tracing the vicissitudes through which this odoriferous sugar mixture has passed in its various stages of evolution as a "consumption cure."

Hydrocine

We have had occasion to comment on the diabolical cruelty exhibited by cancer fakers in deluding their victims with false



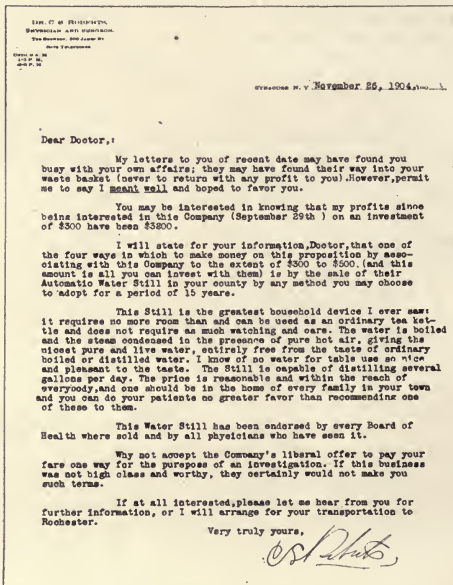
Photographic reproduction (reduced) of a post-card sent out by C. S. Roberts at the time he first began exploiting Hydrocine. Notice the claim that his nostrum is a "positive cure of tuberculosis of all forms." Note, too, the way in which Roberts made capital out of his membership in the Medical Society of the State of New York and in the American Medical Association. Roberts joined the American Medical Association in December, 1906, just before he went into the "consumption cure" business. In September, 1907, the county society repudiated him and his membership in the state and national organizations was thus automatically terminated.

hopes and by inducing them to delay such treatment as might be effective until too late. Next to cancer, tuberculosis offers the most promising field for such vampires, for it is a disease in which the patient is always hopeful and always ready to say that he is better; just such a condition as makes him an easy victim for those who are without principle and ready to prey on the hope which springs eternal in the human breast.

During the past three months¹ physicians all over the country have been receiving postal cards announcing the discovery of a new and wonderful remedy for consumption. The card

1. This was written in August, 1907.

is signed, "C. S. Roberts, M.D., Member N. Y. State Medical Society and American Medical Association." It is to be regretted that what Roberts says regarding his membership is true. Until within the last few months Roberts lived at Syracuse, N. Y., and is a member of the Onondaga County Medical Society and consequently of the Medical Society of the State of New York. Last December he became a member of the American Medical Association. This was just before his re-



Photographic facsimile (reduced) of a circular letter sent out by Roberts at the time that he was trying to get physicians to invest in the "Automatic Water Still." The physician to whom this letter was addressed said: "This is the third letter I have received from Dr. Roberts in the past few weeks, none of which I have answered."

moveal to New York City, and he evidently obtained this membership because he was going into this wretched business and wanted to use his membership as apparent guarantee of his ethical standing. As soon as the Onondaga County Medical Society discovered the business Roberts had gone into he was asked to resign, but this he refused to do. Hence it became

necessary for the society to go through the legal form of trial before expelling him from the society. We understand that his trial cannot come off until September, and that Roberts is fighting to retain his membership.²

According to the postal card, Roberts is just commencing to introduce to the medical profession "(on strictly ethical lines)"—this is put in parentheses probably for emphasis—"a positive cure for tuberculosis in any form." "This discovery," he says, "is the result of fourteen years scientific study and experimentation," but so far as we have been able to learn, Roberts has not been noted as performing any remarkable cures of tuberculosis in Syracuse, nor was it known that he was using this wonderful remedy. The last paragraph of the postal card is supposed to be a clincher:

"Prevent your tubercular patients from saying your neighbor doctor is curing his patients in a few weeks right at home, while you are sending them at great expense in time and money to remote resorts for consumptives."

Judging from the circulars, Roberts seems to have gone to New York to help exploit a nostrum—Hydrocine—put out by the "Medical Food Co.," and evidently the postal card is the initial move in a scheme to exploit the medical profession.

Incidentally, it might be said that some two or three years ago Roberts was interested in a scheme to work the doctors by getting them to invest in a water still, and the circular letters he sent to physicians at that time sound very similar to the circulars he is now sending out puffing this specific for consumption. In one of the "still" letters he states that he made \$3,200 in less than two months on an investment of \$300. Evidently something must have happened to the "still" business, for such a man would hardly give up a business netting \$2,900 in two months, even to exploit a remedy that is to relieve the human race of one of its most fatal diseases.

The recipient of the postal card above referred to is told that if he will send 15 cents in postage stamps he will be furnished with the "theory, literature and abundant testimonials and a \$3 size sample to prove what we say." This part of the agreement is lived up to. The theory is furnished, plenty of literature, including testimonials, and also a box of the tablets. The theory ought to take with an ignorant layman, and the literature certainly is promising and hopeful enough to convince the most desperate individual that he could be cured.

The wonderful remedy is known as Hydrocine—hyper-oxidized hydro-carbon. The circular tells us that "the physician is unquestionably entitled to a full, frank and candid statement of the composition, nature and character of any and every medicinal preparation he is asked to prescribe." This sounds excellent, and then follows the formula:

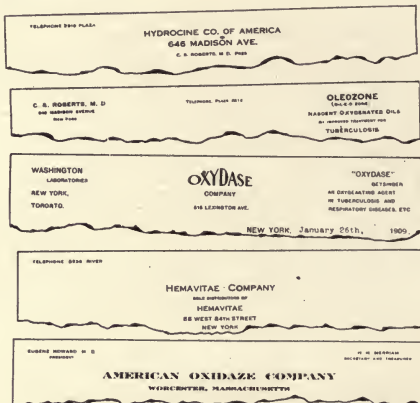
2. He was dropped at the September, 1907, meeting.

FORMULA

Hyper-oxidized hydro-carbon (vegetable).....28 gr.
 Pure rock sugar..... 8 gr.
 Powdered pancreatin 1/20 gr.

The oxids are liberated in the stomach and thrown into the circulation.

It is barely possible that there is somebody on this mundane sphere that can tell what "hyper-oxidized hydro-carbon (vegetable)" is. Most of us have a knowledge of pure rock sugar and powdered pancreatin, but when we come to the other ingredient, we fear the majority of us would have to give it up.



Photographic reproduction (reduced) of the letter-heads of some of the various concerns that have found it profitable to exploit an odoriferous sugar mixture as a "cure" for consumption.

However, we find this in the printed circular:

The hydro-carbon is extracted from oils of cinnamon, conlin, peppermint, spruce, myrtle, chekan, marrubium, myrrh, turpentine and thymol, is then condensed, and positively all toxic properties are eliminated. The residue is hyper-oxidized, pre-digested by pancreatin, mixed with a small quantity of powdered rock sugar and pressed into 30 grain tablets.

There we have it. And when we have it, what have we?

The literature is of the usual quackish order, the optimistic kind that will make the physician who does not stop to think feel that it is something worth trying at least.

TESTIMONIALS AS USUAL.

Of course, there are testimonials—several of them. What nostrum was ever introduced, whether to the public or to the profession, that did not have testimonials ready? Many of

the testimonial givers we have not located, but they may be genuine for all that. One who speaks in high praise of the nostrum is Dr. O. P. Barber of Saginaw, Mich., who is given as "professor of surgery, Michigan College of Medicine and Surgery, Detroit, Mich." Dr. Barber's success is really remarkable when it is considered that he disregarded Dr. Roberts' instruction to select an incipient case, for he seems to have taken one with extensive cavities, in the third stage, a man with undoubted complications, whose sputum was so offensive that the doctor asked him to expectorate in the closet in the next room. He also neglected to give a "good liver cathartic at the start," as the circular advises, but put him at once on hydrocine. Possibly Dr. Barber did not carry out the full instructions because he did not get them from the right source, for he tells us that he was led to use the remedy on the advice of a layman, from whom he seems to have obtained his early supplies. However, notwithstanding these palpable violations of the correct method of using the preparation, this unpromising patient recovered to such an extent that the cavities all filled up and over 40 per cent. of the patient's lung consists of scars. This was proved by the *x*-ray. Dr. Barber had other equally remarkable cures.

Another name that is often seen in a certain class of literature appears in connection with this Hydrocine. This is Dr. J. W. P. Smithwick, of LaGrange, N. C. Dr. Smithwick, however, is given to writing very favorably of preparations that are not in the Pharmacopeia, such as Glycobenphene, Borobenphene, Tongaline, Bromidia, Maltopepsine, Ecthol, Phenalgin, Dermapurine, Angier's Petroleum Emulsion, Thialion, etc., for we find his testimonials in the advertising literature of all of these articles. Dr. Smithwick, who, by the way, is given as "first vice-president of the American Congress on Tuberculosis," and therefore should be an authority on the subject, seems also to have had a most notable experience, for every patient treated recovered, and his cases included not only pulmonary tuberculosis, but also hip-joint disease, lupus vulgaris, etc., and of the worst sort.

When we began to receive Roberts' postal cards and were asked to show up the scheme, we thought the card itself was so quackish that no intelligent physician would risk even the 15 cents. It seems, however, that some have been "almost persuaded," and we have been astonished to receive letters asking if it is not possible that this nostrum may do what its promoters say it will do, evidently feeling that possibly, after all, the long-looked-for remedy has been discovered. How foolish! If Roberts and the promoters (who are, perhaps, making him a cat's paw) really had a remedy that would do what they claim this one will do, there would not be words in the English language strong enough to characterize their villainy and inhumanity in keeping it secret. If, on the other

For some unknown reason, however, this "formula" was changed before the edition of the pamphlet, setting forth the wonders of the combination, was exhausted. "Formula" No. 2, as printed on a "sticker" placed over "Formula" No. 1, states that Hydrocine consists of:

Oxidized carbo-hydrates and essential oils.....	18 1/2	gr.
Mineral constituents	1 1/2	gr.
Pure rock sugar.....	9	gr.
Powdered pancreatin	1/20	gr.

Accompanying this later pamphlet—or more correctly, the earlier pamphlet with a later "formula"—is a circular giving the following enlightening information regarding the composition of Hydrocine:

INGREDIENTS

"Oil of cinnamon, conin, peppermint, spruce, myrtle, chekan, marrubium, myrrh, turpentine and thymol, with all toxic properties positively eliminated. The residue is highly oxidized, mixed with oxidized sugar, pancreatin and pressed into a 30 grain tablet. The oxygen is liberated in a nascent form and taken up by the circulation, and thus enables patients to become saturated with the same in 30 minute doses."

This same circular also gives what purports to be a report of an analysis of Hydrocine Tablets, which, however, reads more as if it were a testimonial prepared at the request of the manufacturer, in spite of the fact that it is written by a presumably reputable chemist. Thus, while the report states that the tablets contain a certain amount of "aldehydes, ketones and oxidized products from the bodies used," the chemist virtually acknowledges that these bodies were not actually determined by him. In fact, from the language of the report one is led to believe that he accepted the manufacturer's statement in regard to their presence. Of course, we do not know the composition of the Hydrocine which the manufacturer submitted to this chemist for report, or the composition which Hydrocine will have in the future. The report of the analysis made for the American Medical Association by its chemists indicates the composition of Hydrocine such as is sent to physicians, and is, therefore, of interest. It is as follows:

RESULTS OF ANALYSIS

We have made a careful examination of the original package of Hydrocine and find that the average weight of the tablets is 29.5 grains. Of this, 95 per cent., or 28 grains, of the total of 29.5 grains, is cane sugar. Each tablet contains an average of 0.3 of a grain of a substance, insoluble in alcohol, containing nitrogenous matter. The indications are that this substance may be very impure pancreatin, that is, that this 0.3 of a grain may contain the 1/20 grain of pancreatin claimed to be present by the manufacturers. It also contains very small quantities of aromatic oils, and it

is probably due to the fact that these oils, like turpentine, react with oxygen that it is claimed that the vegetable matter is "hyper-oxidized." The formula, however, mentions "hyper-oxidized hydro-carbon." Perhaps the manufacturers have reference to the rock sugar and mean carbohydrate, for there is probably no oxidation of the sugar, though it is probable that the aromatic oils present may be partially oxidized and changed in other ways after a time, but the "hyper-oxidized hydro-carbon (vegetable) 28 grains" of the formula is an absurdity, particularly as the analysis shows that the tablet contains 28 grains of sugar. We do not believe that it is possible for such a substance as turpentine, for instance, when in contact with sucrose (cane sugar) to act as an oxidizing agent.

Apparently, therefore, the essential constituent of Hydrocine, as it is now offered to physicians, is cane sugar, and evidently this was the substance which was referred to as the "hyper-oxidized hydro-carbon." As indicated by our chemist's report, the very learned (?) statements regarding the "hyper-oxidized hydro-carbon" or "oxidized carbo-hydrates" may be reduced to a simpler statement: "Each 29.5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin."

SUMMARY

To sum up, we have: A preparation, shown by analysis to be 95 per cent. cane sugar, put on the market to be retailed at a cost of \$8 a pound (avoirdupois). The claim is made that by giving this preparation in 30-grain doses to the extent of one and a quarter ounces daily, tuberculosis can be "permanently cured" in "from six to sixteen weeks." To impress the unthinking, the main constituent in the formula is given a quasi-scientific name, meaningless in import. The exploiter of this "remedy" claims to have given up a practice yielding \$10,000 annually "to spread the truth regarding this preparation"—and incidentally, we suspect, to reap the benefits that must accrue from selling sugar at over \$5 a pound, wholesale.

Our chemist having translated for us into simpler language the statements as to the composition of the article, we, as physicians, should not find it difficult to interpret correctly the evidence on which the claims are based. (*Modified from The Journal A. M. A., Feb. 15, 1908.*)

Oleozone—Oxydase—Cowles Institute

Hydrocine is no more, but the commercial possibilities in sugar as a therapeutic agent are still recognized. Phoenix-like, there have arisen from the ashes of Hydrocine two other "hyper-oxidized hydro-carbons"—Oxydase and Oleozone. In fact, there seems to be at present no fewer than three concerns which are "curing" tuberculosis by means of sugar *plus* various incidentals.

HYDROCINE—OLEOZONE—OXYDASE

Before Dr. Roberts "gave up a practice that was yielding . . . [him] an income of over \$10,000.00 a year" to sell odoriferous sugar at \$8.00 a pound, Hydrocine seems to have

UP-TO-DATE AND OUT-OF-DATE

by

W. H. MORSE, M. D., F. S. Sc. (LONDON),
HARTFORD, CONN.

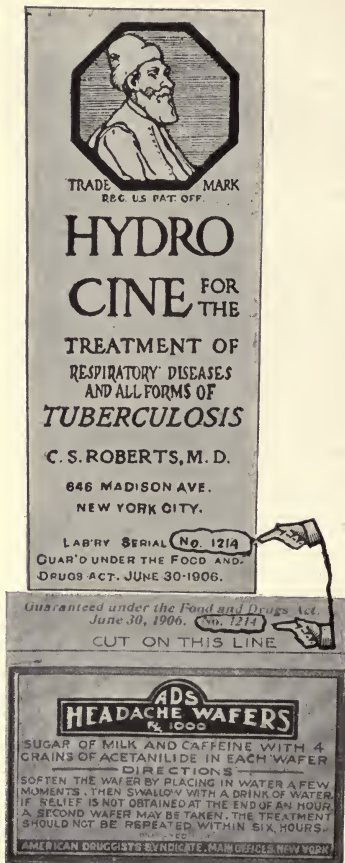
Read before the Sixteenth Annual Meeting of the
New England Eclectic Medical Association,
Boston Meeting, June 24th, 1910.

Reprinted from
Gaillard's Southern Medicine
American Medical Journal
Oklahoma Medical News Journal
The Medical Summary

Photographic reproduction (reduced) of the cover page of a small booklet in which a Dr. W. H. Morse fulsomely lauds Roberts' product. This write-up was also published in several of the less reputable medical journals. Morse seems to make a business of furnishing write-ups for various medical fakes. Epilepsy cures, rheumatism cures, cures for blindness and vibrators are but a few of the things that Morse has testified for. The letters "F.S.Sc. (London)," that appear after his name, indicate that he is a member of a serio-comic, fraudulent concern calling itself the "Society of Science, Letters and Art." The cost of obtaining the honor (?) of membership in this "society" is \$5.00.

been manufactured by a Mr. E. C. Getsinger. It now seems that Getsinger and Roberts have parted company, for the country is being flooded with letters from Roberts in which he says:

"In view of the fact that the party [Getsinger?] who formerly manufactured the old product for me . . . is now attempting to market it himself, I wish to avoid the danger arising from anyone confusing it with my improved treatment. For this reason I have adopted a new name, Oleozone (oil and oxygen), and under this title my new and vastly improved product will be marketed."



TRADE MARK
REG. U.S. PAT. OFF.

**HYDRO
CINE** FOR THE
TREATMENT OF
RESPIRATORY DISEASES
AND ALL FORMS OF
TUBERCULOSIS

C. S. ROBERTS, M. D.
846 MADISON AVE.
NEW YORK CITY.

LAB'RY SERIAL **No. 1214**
GUAR'D UNDER THE FOOD AND
DRUGS ACT. JUNE 30-1906.

Guaranteed under the Food and Drugs Act.
June 30, 1906. **No. 1214**

CUT ON THIS LINE

**ADS
HEADACHE WAFERS**
No. 1000

SUGAR OF MILK AND CAFFEINE WITH 4
GRAINS OF ACETANILIDE IN EACH WAFER

DIRECTIONS
SOFTEN THE WAFER BY PLACING IN WATER A FEW
MOMENTS. THEN SWALLOW WITH A DRINK OF WATER.
IF RELIEF IS NOT OBTAINED AT THE END OF AN HOUR,
A SECOND WAFER MAY BE TAKEN. THE TREATMENT
SHOULD NOT BE REPEATED WITHIN SIX HOURS.

AMERICAN DRUGGISTS SYNDICATE, MAIN OFFICES, NEW YORK


Photographic reproduction of two labels, one from the "headache cure" put out by the A. D. S., the other from the "consumption cure," Hydrocine (now called Oleozone), exploited by C. S. Roberts, one of the original directors of the A. D. S. Notice that the serial number on the two labels is the same, indicating a common source.

On the other hand Mr. Getsinger, who signs himself proprietor of the "Oxydase Company," and who, apparently, is the Oxydase Company, has attempted to checkmate Dr. Roberts by means of post-cards and other advertising matter. He says:

"The chemical name of the compound is 'oxydized hydro-carbon' and later it was named 'Hydrocine.' In the present perfected form we present it to the profession under the name 'Oxydase.'"

That there may be no mistake, the Oxydase Company sends out a printed post-card which begins:

"DEAR DOCTOR:—This informs you that Dr. C. S. Roberts of New York is no longer the sales agent for Hydrocine."



New York City, November 1908.

Dear, Doctor:—

This informs you that Dr. C. S. Roberts of N. Y., is no longer the Sales Agent for Hydrocine. The Manufacturers (since 1902) themselves will now supply you with **Genuine Hydrocine**, put up in Gelatin Shells and thus insure you an undiluted tablet.

AVOID SUBSTITUTES which claim to be super-oxydized, yet by igniting a tablet with a match reveals a yellow flame, against the Oxygen-blue flame of Hydrocine.

These **substitutes** are white, whereas it is common knowledge that Hydrocarbons turn a peculiar **oxide-brown** when oxydized. Such is the color of Hydrocine Tablets.

ORDER DIRECT FROM US. Cash with order, or C O D. Delivery Charges Prepaid. **West of the Mississippi \$2.30 per 100 or Box. East of the Mississippi \$2.25 per Box.** Special price on 500 or more. Write for new Literature.

OXYDASE COMPANY.

515 LEXINGTON AVENUE
TELEPHONE 1251 38TH STR.
NEW YORK.

An Oxygenating Agent in Therapeutics.

A shell of Hydrocine Tablets, Exact Size.

Photographic reproduction (reduced) of a postal card sent out by Getsinger after his break with Roberts, in which he calls attention to the fact that Roberts is no longer the sales-agent for Hydrocine. It was at this time that Getsinger rechristened his product Oxydase. In the original card the words "Hydrocine is now called Oxydase" were imprinted with a rubber stamp over the picture of the shell of hydrocine. Most of this is lost in the photographic reproduction here given.

BRINGING TESTIMONIALS UP TO DATE

The advertising "literature," including testimonials of the apparently defunct Hydrocine Company, seems to have reverted to Mr. Getsinger, as the Oxydase Company's pamphlets are practically a re-hash of the old Hydrocine matter. In this connection, it is interesting to note how testimonials are over-worked. One of the most imposing testimonials in the old Hydrocine pamphlet was that accredited to Dr. O. P. Barber of Saginaw, Mich. In this testimonial, Dr. Barber was quoted as saying:

"I was looking for a case to try Hydrocine on, which Mr. George B. Morley, President Second National Bank, had brought home with him from New York, and was furnished me by him for nearly all the cases I have treated."

We called attention in our previous article to the somewhat unusual course of a physician administering a remedy of whose virtues he learned from the layman who furnished it. This objection cannot be raised, however, to this same testimonial of Dr. Barber's as it now appears in the Oxydase "literature." While it is used practically verbatim, except for the substitu-

He then came to see me, at my request, as I was looking for a case to try hydrocine on, which Mr. George B. Morley, President Second National Bank, had brought home with him from New York, and was furnished me by him for nearly all the cases I have treated.

1 His condition was such that I had no hopes whatever of helping him with any remedy, but Mr. Morley had so excited my curiosity regarding this remedy by his description of cases he had talked with in New York, alleged to have been cured by this treatment, that I put him on the medicine.

His appearance was marked in the extreme

He then came to see me, at my request, as I was looking for a case to try Hydrocine on, which Mr. George B. Morley, President Second National Bank, had brought home with him from New York. Mr. Morley had so excited my curiosity regarding this remedy by his description of cases he had talked with in New York, alleged to have been cured by this treatment, that I put him on the medicine.

2

His appearance was marked in the extreme

He then came to see me, at my request, as I was looking for a case on which to try the Getsinger treatment, which Dr. George B. M. had brought with him from New York. Dr. M. had so excited my curiosity regarding this remedy by his description of cases he had talked with in New York, alleged to have been cured by this treatment, that I put Goldsmith on the medicine.

3

His appearance was marked in the extreme

The evolution of a testimonial. From the Goldsmith Case credited to Dr. O. P. Barber: 1, As it appeared in the earlier Hydrocine pamphlets; 2, from the later Hydrocine "literature"; 3, as it is now in the Oxydase pamphlet.

tion of the term "Getsinger treatment" where "Hydrocine" used to appear, we find that the erstwhile bank president has assumed a professional rôle, and that "Mr. George B. Morley" has become "Dr. George B. M." We are loath to believe that a bank president would give up his highly reputable and not unlucrative business for the purpose of developing the thera-

peutic possibilities of rock candy—even though there may be money in it. Knowing what we do of testimonials and their value, it seems more reasonable to suppose that the transformation of the banker into a physician is merely an artistic touch on the part of those who adapted the Hydrocine advertisements to the Oxydase product.

SATURDAY, MARCH 11, 1911

OXIDAZE TABLETS

Something Everyone Should Know

How to help stamp out Tuberculosis. How to quickly relieve Pneumonia. How to relieve Paroxysms of Asthma.

How to relieve Acute Chronic Bronchitis, Catarrh, Laryngitis and Whooping Cough. How to keep the voice of singers and public speakers clear and strong. How to restore the voice when overworked or impaired. How to fortify the body against the invasion of all germs of infection of whatever name or nature.

While scientists are wrangling over theories concerning these matters, we are producing results. Suffering humanity demands no fine spun theories, but simply asks for quick and tangible results. Our testimonials speak volumes, not theories, but of actual results obtained from the use of OXIDAZE TABLETS.

Here is a Statement Made to The American Oxidaze Co. by a Prominent Physician of Worcester County Who Has a Very Extensive Practice.

About one year ago we were sent a large number of testimonials from physicians and patients on various parts of this county and vicinity concerning the remedial efficacy of Oxidaze Tablets. As these testimonials were handed me as a valuable piece of my acquaintance I felt compelled to giving this remedy a fair trial in my practice. The results I have obtained have been far greater than I anticipated. Now, having had at the end of one year's experience in every day practice, and after seeing that thousands of these Oxidaze Tablets I find that all that was claimed for them is not only true but that the tablets are most effective in several other diseases not mentioned in the testimonials appended. For instance on children with Tuberculosis, Pneumonia and Whooping Cough. I find that this remedy is effective in many forms of Asthma which it quickly relieves. In Whooping Cough I have seen no better remedy than this one in my practice. In Laryngitis I have observed most marked results and have secured the complete restoration of the voice where it was practically lost.

For Singers and Public Speakers with impaired voices I know of nothing in medical practice that has ever produced such quick, immediate and permanent results as Oxidaze Tablets. I want to thank you for calling my attention to this valuable remedy. I now keep on hand that our brother practitioners will give these tablets as though a trial as I have feeling confident that they will secure equally good results from their use.

The results obtained with Oxidaze Tablets by prominent and thoroughly reliable physicians, are so satisfactory that they steadfastly continue to prescribe them. Their orders to us are now by the thousands, where at first were only for the hundred trial box. No fair minded physician will condemn Oxidaze Tablets who has ever given them a fair trial.

We cordially invite all physicians of whatever school, to give this remedy a fair, practical trial in any of the above mentioned diseases, allowing the results obtained to prove and declare their real merit.

American Oxidaze Company

CAPITAL \$250,000.
Massachusetts Charter.

Eugene Howard, M. D., President	Henry H. Merriam, Treasurer
F. F. Knowlin, F. H. Hamlin, Geo. C. W. Wood,	E. J. Ross, Henry H. Merriam

Agents of Corporation—The manufacturers and distributors of the Oxidaze Remedies for Tuberculosis, Pneumonia, Asthma, Bronchitis and other affections of the Throat and Lungs.

**Home Office: Old Telegram Building
Worcester, Mass.**

Oxidaze Tablets are on sale at your druggists.—If not found there they can be obtained at the office of the Company

Box 100 Tablets \$3.00	Box 50 Tablets \$1.50	Trial Box Tablets 30c
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Photographic reproduction (much reduced) of a newspaper advertisement of Oxidaze, the latest name for Getsinger's product. This stuff is sold direct to the public.

THE NEW CHEMISTRY

Much stress is laid by the Oxydase Company on the statement that while their tablet is super-oxidized, the substitute tablet [Oleozone?] "is not oxidized." To prove (?) their point, the Oxydase Company says:

"Place the tablet between tweezers, ignite with a match, then observe the *oxygen blue flame*. The sputtering is the explosion of *small quantities of Oxygen* as it is rapidly liberated. There is no smoke, *nor odor*, proving complete combustion." [Italics ours.—Ed.]

This test, both from theoretical and practical considerations, deserves notice. Theoretically, because oxygen being, in air,

an incombustible gas, can neither explode nor burn with a blue or any other kind of flame; practically, because, the statement to the contrary notwithstanding, there *was* some smoke and a distinct odor of burning sugar when a sample Oxydase tablet was ignited.

The "oxygenating" power of Oxydase and its varied therapeutic indications are set forth in the following weirdly constructed sentence:

"With 20 remedial impulses in septemia within ten hours, or longer on the same dosage, is a formidable weapon in the hands of a physician—in cases of Typhoid Fever, and other sudden invasions of disease; in Croup, Pneumonia, Diphtheria, Asthma, Abscesses, Bronchitis, etc., Oxydase will give you surprising results."

OLEOZONE "STRICTLY ETHICAL"

In calling attention to his "improved Hydrocine," Dr. Roberts emphasizes that he is "distributing this remedy along strictly ethical lines only." In fact, he "will not even place it in drug stores, unless to accommodate a physician at his request." This course is somewhat of a departure from that which he followed in exploiting Hydrocine.

THE "COWLES INSTITUTE"

But Dr. Roberts and Mr. Getsinger are apparently not the only ones who dispense "oxygenated products." We have received letters from various parts of the country inquiring about a New York concern calling itself the "Cowles Institute." A pamphlet sent out by this "institute" has printed on the cover a red double-cross—a misuse of the international emblem of the campaign against tuberculosis that is as unwarranted as it should be illegal. On the title page we read:

"Established for the treatment of tuberculosis in its various forms by entirely new and special methods of medication complying with the highest ethical standards, by which full recoveries in uncomplicated cases of tuberculosis are generally made in from six to nine months without the necessity of changing climate or enforcing severe or rigid hygienic-dietetic rules."

A SUBTLE REMEDY

The "entirely new and special methods of medication" is "by means of an easily digested specially oxygenated product that by regular process of assimilation conveys Atomic Oxygen in proper combination direct to the circulation. . . ." This wonderful remedy is far too subtle a product to distribute indiscriminately to the medical profession, much as the Cowles Institute would like to do so,

"but owing to the necessity of keeping it under fixed conditions of light and temperature and of using it within a very limited period of time in order to obtain the proper results, it is manifestly impossible to do this."

We find, however, that the "treatment" is not to be entirely "cornered," as letters are sent to physicians stating that it is

COMPARISON OF CLAIMS OF THE TRIO OF CONSUMPTION "CURES"

COWLES TREATMENT

"... composed of a base of *saccharum* and two enzymes, one gastric and the other *pancreatic*. To this is added the *highly oxygenated* active principal [sic] of the essential oils of *thymus*, *terebinthina* and eucalyptus with chlorophyll and aromatics."

"... a safe, feasible method of rapidly furnishing the blood with the necessary oxygen properly combined."

"It is *non-toxic*."

"Instruct patient to *avoid taking water* within *fifteen minutes* before or after taking a tablet, as water in some cases, combined with the oils in the tablets, produce slight nausea."

"... during the first week of treatment *with blood*, the sputum may be *tinged* with blood and the patient complain of slight *shooting pains* or *tingling sensations* throughout the infected areas."

"... full recoveries in uncomplicated cases of tuberculosis are generally made in from *six to nine months*."

"... the oxygenated products employed in our treatment are unobtainable elsewhere. Neither are they similar in characteristics or action to any other so-called oxygenated products that may be on the market."

"In Pneumonia we find this tablet undoubtedly a specific for this disease."

GETSINGER TREATMENT (OXYDASE)

"Oxydase tablets contain Oils of Wintergreen, *Cinnamon*, *Peppermint*, *Coniin*, *Sassafras*, *Thyme* and *Turpentine* and *Sugar*, all *highly oxidized*."

"Oxydase is ... a prolific oxygenating agent in medicine."

"... no toxic dose possible."

"Have patients drink milk at any time, but not so *with water*, which decomposes the tablet ... causing cumulation and nausea."

"Twenty days thereafter *twinging pains* over infiltrated areas; *tinges of blood in sputum*."

"Course of treatment lasts from *six to twelve weeks*."

"There are substitute hydro-carbon treatments now being exploited which are not an oxidized product."

"In ... Pneumonia ... Oxydase will give you surprising results."

ROBERTS TREATMENT (OLEOZONE)

"Oleozone is prepared from the oxygenated principles of the oil of *casia*, *conin*, *peppermint*, spruce, myrtle, myrrh, marrubium, *turpentine* and *thymol*, combined with rock candy, *sugar* and *pancreatin*."

"It purveys a constant supply of oxygen to the blood."

"... a harmless compound positively not injurious from prolonged use."

"*Drink no water within fifteen minutes before or after taking* the tablets, as water disturbs the oils in the tablet."

"Soon *twinges of pain* and great soreness in the chest may be noticed, with perhaps *tinges of blood in the sputum*."

"... this new treatment requires only *six to sixteen weeks* to perfect a permanent cure."

"... the party who formerly manufactured the old product for me ... is now attempting to market it himself. I wish to avoid the danger arising from anyone confusing it with my improved treatment."


"In cases of acute Pneumonia it will cure them so quick that it will surprise you."

the desire of the "institute" to place the "oxygenated product" in the "hands of at least one competent physician in every community of consequence." To those physicians who have a tuberculous patient under their care, they would "be glad to send a sufficient quantity to demonstrate its value without any expense except express charges." As to what may be expected from this "treatment," the modest claim is made:

"... practically 90 per cent. of the cases we take in the first and second stages of tuberculosis make a complete and apparently permanent recovery."

We have, then, apparently three concerns "curing" tuberculosis by means of sugar and essential oils, two of them operated by laymen. The similarity of the claims made, and of the methods pursued, by this trio of "consumption cures" is best shown by the quotations we have taken from the

LAS PASTILLAS "OXYDASE GETSINGER."



Desprenden OXIGENO el estado asfáltico.
 Son el mejor específico para AFECCIONES PULMONARES.
 Curan los PULMONÍAS en 3 ó 6 días,
 Curan los TUBERCULOSIS en 4 ó 6 meses
 Curan rápidamente TOS Y CATARRO.
 Curan eficazmente la BRONQUITIS.
 Usase la "OXYDASE" en los CATARROS.
 Para favorecer de los PULMONÍAS.

CIA. LATINO-AMERICANA DE OXYDASE, S. A.

AVENIDA 16 DE SEPTIEMBRE 26. 1ER. PISO.

APARTADO 2590.

MEXICO, D. F.

Photographic reproduction (reduced) of a "return envelope" sent out by the South American branch of the Oxydase concern. Quackery knows no geographic limitations.

"literature" and correspondence of the three concerns and arranged in parallel columns.—(From *The Journal A. M. A.*, Mar. 20, 1909.)

Oxidaze

The latest change in the name of Getsinger's product is "Oxidaze" put out by the American Oxidaze Company. This company is said to have purchased the formula of Getsinger who is no longer connected with the business.

The Oxidaze concern sells its product direct to the public. The nostrum is recommended for tuberculosis, pneumonia, asthma, bronchitis, catarrh, laryngitis, whooping-cough, etc., and this evil-smelling mixture is said "to fortify the body against the invasion of all germs or infection, of whatever name or nature." While most of the men connected with

this new company seem to be laymen, one individual—its president—is a physician, and his facsimile signature appears on the advertising matter and the packages of the nostrum. This man is Eugene Howard, M.D., who was graduated by the Missouri Medical College in 1874. Howard, it is said, has not practiced medicine for the past twenty-five years but has been engaged in business. He is not registered in Massachusetts, having discontinued practice prior to the registration act of 1894. The assumption seems justified that the use of the title "M.D." after the name of the president of the Oxidaze Company is for the purpose of lending an air of respectability to an otherwise disreputable business.

To determine the composition of this latest form of the "sugar cure" for consumption so that it might be compared with its predecessors, an analysis of the stuff was made in the Chemical Laboratory of the American Medical Association. The chemists' report follows:

LABORATORY REPORT

"The tablets received in a carton labelled 'Oxidaze Tablets No. 1 Dark. A most effective remedy in the treatment of Tuberculosis, Pneumonia, Asthma . . . etc. . . . prepared for American Oxidaze Company, Worcester, Mass.,' are dark brown in color possessing a strong odor and taste of essential oils. A general separation of ingredients yielded the following results:

Chloroform-soluble matter.....	10.98 per cent.
Water-insoluble matter.....	7.86 per cent.
Water-soluble matter (by difference).	81.16 per cent.

100.00

"The chloroform-soluble matter appears to be, at least in large part, a mixture of volatile oils.

"The water-soluble portion appears to consist of sugar containing some dye and a trace of potassium iodid, the latter amounting to 0.14 per cent. of the tablet.

"The water-insoluble matter consists almost entirely of corn starch.

"The specimen of Oxidaze tablets examined may then be said to consist essentially of sugar containing a small amount of volatile oils, starch and a trace of potassium iodid."

From this analysis, it is evident that the tablets now sold as Oxidaze are of the same character as those formerly exploited as Hydrocine. The substitution of a little starch for some of the sugar, the addition of a little more oil and the presence of a minute quantity of potassium iodid mark the only essential difference between the Oxidaze tablet and its prototype, Hydrocine. In spite, then, of its nomenclatorial evolution, the "sugar cure" for consumption remains just as worthless and just as silly as it was before it sprang newborn from the fertile brain of its inventor. So long, however, as the public clings to the old belief that any preparation that tastes bad and smells worse must have therapeutic value, so

long will the J. Rufus Wallingfords of the pharmaceutical world continue to capitalize the hopefulness and credulity of ignorance. (*From The Journal A. M. A., Dec. 30, 1911, with modifications.*)

PANTOPON DETOXICATED

A remarkable feat of pharmacologic exorcism has lately been performed in Germany on the recently introduced proprietary purified extract of opium called Pantopon, and the result is something like the play of Hamlet with Hamlet left out. Pantopon, we are told, is obtained from opium by expelling the dross and the impurity leaving a collection of the pure alkaloids in the form of hydrochlorids. Naturally as Pantopon contains 50 per cent. of morphin it has the disadvantages of morphin, although this fact seems to have been largely overlooked by its enthusiastic supporters. It was said that the presence of the other alkaloids of opium would somehow or other render Pantopon a harmless substance. H. Winternitz,¹ however, found that this was not true. In a case of tabetic crisis he found that the morphin in Pantopon produced the same dangerous depression of the respiration as morphin when it was not in Pantopon. Winternitz therefore determined to cast out the devil from Pantopon and make a new proprietary. Accordingly he got the manufacturers to demorphinize Pantopon.

Behold the mutilated somnifer became as mild as a summer morning! Pantopon minus morphin no longer disturbed the breathing and it could be given in doses fifty times as large as its parent, the original Pantopon. In these doses the new remedy seemed to be of benefit in a case of insomnia, which might have been expected, for codein at least was left. This tail end of Pantopon has already had its proprietary christening with the baptismal name "Opon," derived from Pantopon by cutting off the "pant." As with Pantopon we may soon expect to see medical literature enriched by a fresh crop of observations on this new and wonderful German product. We would suggest that the next appropriate step in the proprietary industry would be the removal of the codein from "opon," leaving a new remedy for which the name "pon" would readily occur.—(*From The Journal A. M. A., May 11, 1912.*)

PAPINE

A Disguised Morphin Solution

To the thinking physician it should be evident that a preparation containing morphin must possess not only all of the valuable properties of this drug, but also all of the objec-

1. *Therap. Monatsh.*, March, 1911.

tionable ones. There are still some physicians, apparently, who give credence to the assertions of the manufacturers concerning a morphin preparation from which, it is claimed, all of the undesirable morphin effects have been removed. The following query from a correspondent illustrates this fact:

"Will you inform me as to the contents of "Papine"? I have a case of chronic interstitial nephritis, and my consultant insists on giving this preparation. I asked him if he knew what drugs it contained and his answer was 'one-eighth of a grain of morphin with the objectionable parts of the drug removed.'"

The query was referred to the Association Laboratory, which submitted the following report:

For many years Papine has been advertised by its makers, Battle & Company, St. Louis, as an anodyne. In the circulars Papine is described in part as follows:

"Papine represents in pharmaceutical form the purely anodyne principles of opium freed from the narcotic and tetanising constituents."

"Papine is the anodyne or pain-relieving principle of opium, the narcotic and convulsive elements being eliminated. One fluid drachm is equal in anodyne power to one-eighth grain of morphin."

"Through special methods of preparation, the anodyne and analgesic principles of *Papaver somniferum* are so extracted as to free them of the narcotic and convulsive elements that ever have been, and must ever continue to be serious objections to the use of opium and its common derivatives. . . . No demand is more regularly made on the physician than that for the relief of pain, and to be able to afford it promptly and completely, without the slightest deleterious action, is an advantage that cannot be overestimated."

"Unlike most derivatives and preparations of opium, Papine neither nauseates nor constipates; nor does it inhibit the secretory functions of the body."

"In conditions of extreme nervousness, especially in women, recourse to morphin is attended by the very real danger of the formation of a habit. Lastly, opium and its alkaloids must not be administered to persons whose kidneys are not in good working order on account of the risk of toxic accumulation."

"No such restriction exists in respect of Papine, its action being exerted exclusively on the element pain; in other words, it is purely anodyne."

"Papine does not nauseate, constipate nor create a habit."

From these statements the incautious physician might be led to infer that Papine is a preparation analogous or similar to the official tincture of deodorized opium. Formerly in the manufacture of the latter preparation, in addition to removal of the odorous substances, narcotin, then thought to be the principal convulsive alkaloid,¹ was also removed. By the process for the manufacture of this tincture, which is now official in the United States Pharmacopeia, most of the narcotine is found in the finished preparation. While it is a comparatively simple matter to remove the narcotin from opium and its preparations, thus eliminating most of the commonly

1. Narcotin is now known to possess very little physiologic effect.

reputed "convulsive elements,"²² to remove the "narcotic elements" from opium would result in destroying the integrity of the product. The reasons for this are that morphin is the most powerfully narcotic substance found in opium, and it is present in the largest proportion of any of the alkaloidal constituents. Its removal from an opium preparation would, therefore, render that preparation practically valueless.

From Papine, however, the morphin has not been removed, for *since the passage of the Food and Drugs Act* the label has to admit that Papine contains 1 grain of morphin in each ounce!

A specimen of Papine was examined and found to be nothing more than a simple aqueous-alcoholic solution of morphin, containing glycerin. The preparation is flavored to imitate cherry and colored with cochineal. With the exception of morphin, neither narcotin, codein nor other opianic alkaloids



The Papine label before (on left) and after (on right) the passage of the Food and Drugs Act. And the exploiters of this morphin solution have the effrontery to claim that it does not create a habit!

were found, while meconic acid, a characteristic constituent of opium, was absent. Since Papine is claimed not to cause constipation, and as is well known, this condition is frequently produced by morphin, it seemed possible that Papine might contain laxative substances. On examination, however, neither cascara, rhubarb, phenolphthalein nor laxative salts were found.

While Battle & Co. have persistently exploited Papine as being an opium preparation having none of the objectionable qualities of opium, the analysis shows that the paradoxical claims made for it cannot be substantiated. In prescribing morphin there is an abundance of official preparations to choose from, and there certainly is no necessity or excuse for resorting to the much more expensive and in no way superior Papine.—(From *The Journal A. M. A.*, April 29, 1911.)

2. Of the opium alkaloids, laudanin and thebain possess the most powerfully tetanizing properties, but they are present in opium in too small quantities to produce any noticeable effect. Neither of these alkaloids is removed by the usual processes for "denarcotizing" opium.

PAS-AVENA

How Its Formula Evades the Food and Drugs Act

Pas-Avena is a widely advertised "nerve sedative and hypnotic." The preparation is put on the market by the Pas-Avena Company of New York City. As a headliner the advertisements of the remedy state that the formula has always been on every bottle, and this, *THE JOURNAL* states, has a twofold object: It aims to give the impression that the preparation is non-secret, and it is calculated to inspire confidence in the—apparently—scientific nature of the product. As a matter of fact, it should do neither. The preparation is essentially secret in its composition because of the presence in the formula of an unknown quantity and the liability to change of formula at the whim of the manufacturer. On the bottles some time ago the following formula was given:

Each tablespoonful contains:

Passiflora	20 minims.
Avena sativa	10 minims.
Somnalgesine ($C_{30}H_{28}N_5O_6$)	2 grains.

The first two ingredients are plants in whose therapeutic value but little confidence is placed. Somnalgesine, the third constituent, is a secret preparation, the chemical formula of which the manufacturers were kind enough to add. To a chemist, however, the formula is absurd and impossible, and is included either because of the manufacturer's ignorance or because of an intent to deceive the profession. Since the Food and Drugs Act became law, the label of Pas-Avena has been changed to read:

Alcohol	8.37 per cent. by volume.
Anilpyrine.....	16.00 grains per fluid ounce.
Guaranteed under the Food and Drugs Act of June 30, 1906.	

Substitution of anilpyrine for somnalgesine gives little more information. Chemists may recognize this as a name applied to a mixture said to be formed by the fusion of two molecules of antipyrin and one molecule of acetanilid. To physicians, however, the name carries with it the same mystery as did somnalgesine. Attention is directed to the fact that by publishing the guarantee under the pure food laws the company presumes to disperse all doubt and criticism, assuming that the majority of physicians will be satisfied with the guarantee as it stands. Inasmuch as the preparation contains acetanilid and antipyrin, however, the manufacturers are disregarding that part of the Food and Drugs Act which requires that the name of the parent substance—in this case acetanilid and antipyrin—be put in parenthesis. The laws are so well defined that physicians appear to be content to do nothing, firmly believing that they are safe from the defrauding methods of unscrupulous manufacturers.—(*Abstracted from The Journal A. M. A., March 7, 1908.*)

Proprietary House Insolvent—and Physicians Lose?

The Pas Avena Chemical Company, whose product, Pas Avena, was exposed in *THE JOURNAL* a few months ago, has recently failed, according to our pharmaceutical exchanges. In recording the fact, one journal says:

"It is reported that considerable stock of this company had been sold to physicians."

At this time, when physicians are importuned daily to invest money in various wildcat pharmaceutical concerns, this sentence might well be used "to point a moral or adorn a tale."

PEPTO-MANGAN (GUDE)

Scientific Work Misrepresented and Commercialized

In this article the misuse by the exploiters of pepto-mangan of the government report on anemia in Porto Rico is exposed. The conclusion of the government commission, which investigated the anemia prevalent in Porto Rico, was that iron was of subsidiary importance in treatment, and that the carbonate, as represented by Bland's pills, seemed to give the best results. Immediately Messrs. M. J. Breitenbach & Co. used this report to exploit their preparation (pepto-mangan)—first in advertisements and reading notices and later in a garbled extract of the report printed in pamphlet form and scattered broadcast among physicians. This pamphlet conveyed the idea that pepto-mangan had been endorsed by the government as superior to any other iron preparation, and that it had proved most efficacious in the treatment of anemia; that "this report alone would suffice to establish pepto-mangan at once as the foremost hematinic known." The commission later published a denial, stating that pepto-mangan was used by them only for a little while, because it was found to be of even less value than other iron preparations. In another pamphlet sent out by the same company which controls pepto-mangan in this country are statements regarding the treatment of infantile anemia at the Infant's Hospital on Randall's Island, New York City. *THE JOURNAL* sent its own representative to examine the books of the hospital, who found conditions quite different from those represented in the pamphlet. Just as the Porto Rico commission furnished no evidence of such exaggerated value of pepto-mangan, but expressed their opinion that anthelmintic and not reconstructive treatment is needed in uncinariasis, and that iron in other forms was of more advantage as far as it went, so in the case of the Infant's Hospital the records and daily charts of the cases show a remarkable difference between the results of treatment and the claims of the pepto-mangan pamphlet. Two things are illustrated by these pamphlets and their refutation. The first is that so-called scientific reports are only of value in proportion to the veracity and reliability of the writer, and the second and equally

deplorable fact is that firms composed of men who are personally honorable are willing to obtain business by such unjustifiable methods. If it is said in their defense that they depend on the truthfulness of their writers, it does not relieve them from responsibility. There is too much apparent tendency on the part of proprietary houses to accept any report, statement or testimonial that is favorable to their business without question and to suppress apparently unfavorable reports or facts. This tendency has helped to produce the present deplorable condition in the proprietary medicine business.—(*Abstracted from The Journal A. M. A., Sept. 23, 1905, and April 6, 1907.*)

PHENALGIN—A TYPICAL EXAMPLE

Last June¹ we devoted considerable space to the extravagant therapeutic claims made for "Phenalgin" by its venders. At this time we propose to refer to the misinformation—to use a conservative term—that the Etna Chemical Company has promulgated regarding the composition of their preparation.

In June, 1905, the Council on Pharmacy and Chemistry officially published to the medical profession of the United States the information that repeated examinations showed that "Phenalgin" is a simple mixture of acetanilid and sodium bicarb. or ammonium carb. So far as we know, no direct denial of the truth of this has been made. There has appeared what we presume is meant as an answer; it is couched in this sentence,

Phenalgin is just what we have always said it to be.

From this expression—which has been repeated in bold, black letters in practically all the advertisements since last June—we presume that we are to understand that in the past they have stated what it is.

It would have been just as easy and more satisfactory if the Phenalgin people, instead of saying: "Phenalgin is just what we have always said it to be," had said what it is, since the average physician has neither the time nor the inclination to look up their literature.

For the benefit of those who desire to know what the venders of Phenalgin "have said it to be," we have gone over their advertising literature of the past, with the following results, which are in the form of quotations from their advertisements:

An American Coal-Tar Product—Phenalgin—the only synthetic stimulant, non-toxic, antipyretic, analgesic and hypnotic.

Phenalgin is the ONLY ammoniated Synthetic Coal-Tar Product made from Chemically Pure Materials. [What have the Ammonio people to say to this?—Ed.]

A synthetic Coal-Tar Product of the Amido-Benzine series, containing Nascent Ammonia.

1. See THE JOURNAL A. M. A., June 24, 1905, p. 1907.

These two chemicals ["stimulant ammonia of coal-tar origin" and "chemically pure phenylacetamide"] combine under certain conditions so as to obtain a produce which he [Dr. Cyrus Edson] named Phenalgin or Ammoniated Phenylacetamide.

Phenalgin is a compound of peculiar character which can not be extemporaneously made into tablets from the powdered drug, without seriously changing and impairing its medicinal qualities.

We believe these quotations are sufficient to show what the Etna Chemical Company has "always said it to be." In going over the literature for several years past we find the above stated in the same, or similar, words in nearly all of it. From the above four statements may be deduced: 1. They have stated that Phenalgin is a synthetic¹ preparation; 2, they have conveyed the impression that Phenalgin is a chemical compound; 3, they have announced repeatedly that it is the "only" preparation of the kind, and 4, they have claimed that Phenalgin is non-toxic.

We believe that these four statements represent in plain English what the above quotations mean. They are all absolutely false. Phenalgin is not synthetic; it is not a chemical compound; it is not the only ammoniated phenylacetamide, or the only acetanilid mixture containing carbonate of ammonia—and it is most positively toxic.

In one place it is stated that Dr. Cyrus Edson

Employed his great facilities for chemical research and opportunities for chemical experiment for the purpose of producing a formula for a combination of stimulant ammonia of coal-tar origin (sic) and chemically pure phenylacetamide, also a coal-tar product . . . which he named phenalgin, or ammoniated phenylacetamide.

In another place we read that Phenalgin is made

Under the immediate personal supervision of the original inventor of ammoniated coal-tar products.

By comparing this last quotation—which is from a current—1905—advertisement—with the preceding one it will be noticed that we are asked to believe that Phenalgin is made "under the immediate supervision of" Dr. Cyrus Edson—and yet Dr. Cyrus Edson died Dec. 2, 1903. This is equal to Lydia Pinkham's prescribing for the suffering women of America when the dear old soul had been dead for over twenty years.

We have before us a full-page advertisement taken from a recent number of a weekly medical journal, which possibly is meant as an answer to the announcement of the Council on Pharmacy and Chemistry that Phenalgin is a simple acetanilid mixture. The advertisement is divided into two parts; the first part is as follows:

1. Dunglison's Dictionary: "Synthetic—In chemistry the formation of a more complex body by the union of simpler bodies." Dorland's Dictionary: "Synthesis—The artificial building up of a chemie compound by the union of its elements." "Union" is not mixing.

FACTS ABOUT ACETANILIDUM (ANCIENT HISTORY)

It has long been recognized that Acetanilidum and most other coal-tar products are apt to exert a depressing influence upon the heart, but there has never been any doubt about its great value as a pain reliever and temperature reducer. Its therapeutic value has, however, been practically nullified by the danger of cyanosis and other evils caused by its well-known depressant action and the difficulty of obtaining it in a pure state. It being known that certain deleterious substances are often to be found in Commercial Acetanilidum and that much of the injurious effect attributed to this drug is entirely traceable to these impurities.³

The above are also falsehoods. The therapeutic value of acetanilid is not "practically nullified . . . by the difficulty of obtaining it in a pure state." Neither is it true that "much of the injurious effect attributed to this drug is entirely traceable to these impurities." While deleterious substances may be found in *commercial* acetanilid, they are not found in the substance offered as medicinally pure acetanilid by reputable firms. Pure medicinal acetanilid is a cheap article, costing less than 30 cents a pound, for it is a substance that is easily and cheaply purified. It is a fact that the injurious effects are in the acetanilid itself and not in the impurities it may occasionally contain.

The second half of the advertisement in part is as follows:

FACTS ABOUT PHENALGIN (MODERN SCIENCE)

More than a decade ago the late Dr. Cyrus Edson, then Health Commissioner for New York City and New York State, recognizing the value of chemically pure Acetanilidum as a therapeutic agent, if it could be deprived of its depressant quality, employed his great facilities for chemical research and opportunities for chemical experiment for the purpose of producing a formula for a combination of Stimulant Ammonia of coal-tar origin and chemically pure Phenylacetamide, also a coal-tar product. These two chemicals combine under certain conditions so as to obtain a produce which he named Phenalgin or Ammoniated Phenylacetamide.

There is more of the same character. In the first place, we call attention to the fact that "Phenylacetamide" is substituted for "Acetanilidum" when it is to go into Phenalgin. To mystify is one of the "tricks of the trade." Few physicians keep up with chemical terms and, therefore, are not supposed to know that Phenylacetamide is one of the chemical names for Acetanilid.

The reference here to Dr. Cyrus Edson brings up another fact, and that is that the Etna Chemical Company tries to convey the idea that Dr. Edson was the originator of Phenalgin. We have always understood that Dr. Cyrus Edson had something to do with pushing Ammonol and, if we remember rightly, got

3. This sentence is not complete, but, of course, this is immaterial. Little things like an incomplete sentence do not count.

into some trouble thereby. We do not know the exact facts, but the following letter shows that he had a leaning toward another "ammoniated phenylacetamid." The letter is dated "New York, Oct. 6, 1894," and is addressed to the "Ammonol Chemical Company."

"During the past six or eight months I have used Ammonol extensively in my private practice. I have found it excellent in the treatment of neuralgias and for rheumatism. I have also verified your statement in two cases that were suffering from alcoholism. My experience justifies me in saying that it is the safest and best of the analgesic coal-tar derivatives. "Very truly yours.

CYRUS EDSON, M.D."

It may be of interest to know that the principal member of the firm of the Etna Chemical Company was at one time a member of the Ammonol Company, and it is usually understood, we believe, that Phenalgin is practically the same as Ammonol—in fact, the analyses published regarding the two preparations show this to be a fact.

We must make one more quotation:

It makes little difference to a physician whether Phenalgin is a mixture or a compound or a synthetic, with a name that would destroy the orthographic balance of the universe, provided it is just what he has always found it to be.

Very complimentary to the intelligence and common sense of physicians, is it not?

Suppose some fellow should get up a scheme to exploit a mixture of quinin and some cheap, harmless substance, say, starch—equal parts of each. Suppose he gives it a fanciful name, puts it on the market at a high price, say \$1.25 an ounce, and announces it as a new synthetic with wonderful therapeutic qualities. Suppose that the schemer then adopts the nostrum vender's methods of fooling physicians into using his product by getting some to give testimonials, others to furnish write-ups, and then subsidizes medical journals through liberal advertising to print both the testimonials and the write-ups. The preparation would, of course, prove to be a good thing if it were used in liberal quantities where quinin would ordinarily be used, and some patients using it would get well even if quinin were not indicated. Then with the psychologic effect of the testimonials, the write-ups, and good, strong claims rightly pushed, unthinking physicians would do the rest. And then, after a while, when the schemer had gotten to the point where, each year, he was making a fortune out of his preparation, suppose some "self-appointed chemists" should examine into the preparation and discover that it was nothing but quinin and starch, and so announce to the doctors of the country; what would the doctors say? That it makes little difference "provided it is just what he has always found it to be!"

This analogy is not far-fetched, for it is practically what has been done with Phenalgin. One difference is that since quinin

costs as much per ounce as acetanilid does per pound, the profits on the acetanilid mixture would be sixteen times greater than that of our imaginary preparation. Another difference is that acetanilid is really a dangerous drug, unless used with care, both in its immediate and in its remote effects; quinin is far less so.

"Little difference" indeed, whether we are being buncoed or not! Evidently!

In conclusion, we charge the Etna Chemical Company with intentionally misleading and deceiving the members of the medical profession, in that the said company has in its literature and its advertisements conveyed the impression (whether directly stated or not): First, that its preparation, Phenalgin, is a synthetic compound; second, that Phenalgin requires special skill in its preparation; third, that Phenalgin has therapeutic values which it does not possess; and, fourth, that Phenalgin is non-toxic.

We also charge that on account of these and other misrepresentations, this company has inveigled physicians into prescribing and using a simple mechanical mixture of common well-known cheap drugs—for which an extravagantly high price is charged—under the supposition that this combination of cheap drugs is a chemical compound of special and peculiar merit as a therapeutic agent, and, therefore, worthy of their confidence.

Our object in again giving space to this preparation—and practically all we have said applies to the other acetanilid mixtures that are exploited under fictitious names or as chemical compounds (such as ammonol, antikamnia and salacatin or sal-codeia—Bell)—is to impress on physicians, by a typical example, the shamefulfulness of the deceptions practiced on them by nostrum manufacturers to the great injury of the public and of the medical profession.

A Pharmaceutical Secret which Should Not Be Lost

Dr. Gregory Costigan, New York City, writes under date of January 21, as follows:

"I have been carefully reading and enthusiastically approving your articles on the nostrum evil, and have been impressed more than usual on the existence of quack advertising in medical journals as set forth in last paragraph and quotation on page 206, bottom of first column, of your issue of Jan. 20, 1906.

"In *Merck's Archives*, page 11, we are told in an advertisement on 'Phenalgin' that it 'is a compound of peculiar character which cannot be extemporaneously made from powdered drug' and 'our process of manufacturing tablets is coincident with the manufacture of Phenalgin and is the result of a long series of careful experiments by which we are able to produce tablets of Phenalgin in a friable condition without losing any of its *volatile* constituents or undergoing chemical changes from heat or moisture'! Inasmuch as Phenalgin tablets are not covered with a water-

proof coating I think this is a remarkable statement to make, and the manufacturing of a drug coincident with the manufacture of a tablet must be a very remarkable performance, especially because it 'retains the full therapeutic value of the drug unimpaired' while the advertisement asserts that no other manufacturer is cognizant of this wonderful method. This ad. is for the perusal of physicians only. The Etna Chemical Company owes it to the medical and pharmaceutical world not to let this secret die with the company's dissolution. It owes it as a duty to the coming generations of science immediately to jot down the full data of this wonderful performance, to put it away in an age-proof safe and not allow it to be lost to humanity as were a great many other arts that were well known to the ancients. Let them keep it secret now and profit by it, but do not let it be lost to posterity."—
(From *The Journal A. M. A.*, Jan. 13, 1906, and Jan. 29, 1906.)

An Ethical (?) Proprietary Exploited Under Fraudulent and Lying Claims

"Phenalgin is a synthetic coal-tar product"—thus ran the advertisements some years ago, when the medical profession was willing to take—or was compelled to take—the word of the manufacturer of proprietary remedies at its face value. Then the Council on Pharmacy and Chemistry was brought into existence. One of the first pieces of work done by the Council was the publication of the results of a number of analyses of headache powders. Phenalgin was among them. Analysis showed that Phenalgin was not a synthetic but a simple mixture of the following ingredients in the proportions given:

Acetanilid	57 parts
Sodium bicarbonate	29 parts
Ammonium carbonate	10 parts

The Etna Chemical Company, which puts out this product, was considerably disturbed by the Council's exposure. It "came back" at the American Medical Association with the slogan "Phenalgin is just what we have always said it to be." What, up to that time, the Etna Chemical Company had "always said" Phenalgin to be, was:

- 1.—Phenalgin is a synthetic.
- 2.—Phenalgin is the only preparation of the kind.
- 3.—Phenalgin is non-toxic.

These, in brief, were the three things that Phenalgin had been asserted to be. Each statement has been proved to be a definite and unequivocal falsehood. Phenalgin is not and never was a "synthetic." Phenalgin is not and never was the only acetanilid mixture containing carbonate of ammonia. Phenalgin is not and never was in any sense of the word non-toxic. Phenalgin, in short, possesses the properties—both good and bad—that are common to acetanilid. It is a mixture that

the merest tyro in pharmacy could dispense and for which any sophomore medical student could write a prescription without stopping to think. Acetanilid sells at 8 cents an ounce wholesale; Phenalgin at \$1.00 an ounce, wholesale.

"PHENALGIN IS JUST WHAT WE HAVE ALWAYS SAID IT TO BE."

—*Etna Chemical Co. in 1905.*

"Phenalgin is a synthetic coal-tar product."

—*Etna Chem. Co. in 1898.*

"Unlike the coal-tar synthetic, phenalgin is a stimulant rather than a depressant."

—*Etna Chem. Co. in 1910.*

TEMPUS

OMNIA

REVELAT!

All these facts and many more were given to the profession by the Council on Pharmacy and Chemistry in THE JOURNAL more than six years ago—before even the Food and Drugs Act came into effect. After that law became operative, the Etna Chemical Company was compelled to say something on the label that it had never said before, namely, that Phenalgin contained 50 per cent. acetanilid. But the law not only required them to add a fact to their label, but it also compelled them to remove a falsehood. When the pure food law went into effect, Phenalgin was labeled a "malaria germicide." It is not a malaria germicide and never was a malaria germicide, and the Etna Chemical Company dared not risk taking the question into court so it removed the statement.

Unfortunately, the Food and Drugs Act exercises no control over the lying statements that may be made for drugs elsewhere than on the label. So it is that physicians within the last two or three weeks have received a booklet on Phenalgin containing the following assertions for this acetanilid mixture:

"Without the slightest harm, injury or depressing effect."

"Is never followed by depression."

"Its prolonged administration does not give rise to destructive blood metamorphosis."

"Is of great value in the treatment of neuralgia (especially in the anemic)."

"Freedom from the deleterious action or habit-forming tendencies of the opiates."

"It aids in destroying the malarial parasite."

"Safest and most dependable of analgesics"

It will be seen by this that while the Food and Drugs Act has forced a certain degree of truthfulness on the Phenalgin labels, the advertising matter is as fraudulent and as untruthful as ever it was. It is true that the assertion that it is a

synthetic is no longer made, possibly because the medical profession has been so thoroughly enlightened on the much-overworked "synthetic" fraud that the falsehood is no longer profitable. In other respects, the assertions are just as false as ever. It is said to have no depressing effect—and yet it is acetanilid. It is said to produce no habit—and yet it is acetanilid. It is said to have no injurious effect on the blood—and yet it is acetanilid. It is said to be the safest analgesic—and yet it is acetanilid. How long will the medical profession continue to be hoodwinked by means of such transparent falsehoods?

The Phenalgin concern takes much credit to itself because on the cartons in which the bottles of Phenalgin come, it is stated that the product is "for dispensing purposes only." Yet, as a matter of fact, practically any layman can go to any drugstore and obtain this product, for the druggist appraises this spectacular piece of Pecksniffian virtue at its face value—a joke. Why, if intended only for physicians, would it be necessary to include with every bottle a circular naming the diseases, for which this acetanilid mixture is supposed to be good—"headache," "colds," "lumbago," "scanty menstruation," "pain in any part of the body"—and why is the name of the product and of the firm making it, blown into the bottle?

To sum up then, Phenalgin is as big a humbug as Peruna ever was. It is sold to-day under claims that are just as false as those used six years ago. The Etna Chemical Company is perpetrating a stupendous fraud on the medical profession to-day and it is doing it not only through the agency of the United States mail, but with the aid and support of the following medical journals—and others—in which the Phenalgin advertisement appears:

<i>Medical Record</i>	<i>American Journal of Obstetrics</i>
<i>New York Medical Journal</i>	<i>Medical Century</i>
<i>Pediatrics</i>	<i>Pacific Medical Journal</i>
<i>Lancet-Clinic</i>	<i>Dietetic and Hygienic Gazette</i>
<i>American Journal of Surgery</i>	<i>Medical Standard</i>
<i>International Journal of Surgery</i>	<i>Eclectic Medical Journal</i>
<i>American Medicine</i>	<i>Am. Jour. of Clinical Medicine</i>

It is conceivable that in some cases it is not easy for those editors and publishers of medical journals who insist on relying on their own judgment, to satisfy themselves that certain preparations are not worthy of being advertised. No such difficulty occurs in the case of Phenalgin. Here the issues are clear cut. The product is exploited under claims that are both false and vicious and their falsity and viciousness are perfectly evident to any freshman medical student. The only charitable explanation of the appearance of the Phenalgin advertisements in the medical journals listed is that the editors and publishers have not given the subject the atten-

tion it deserves and to which their readers are entitled. Perhaps it would help if their attention were called to the matter by their subscribers.—(*From The Journal A. M. A., Jan. 27, 1912.*)

PHENO-BROMATE

An analysis of this preparation made at the instance of the New Haven Medical Association, by its chemist, and sent by Dr. Charles J. Foote of New Haven to THE JOURNAL is in part as follows:

The package was marked "Sample package, Pheno-Bromate. The Pheno-Bromate Company, New York, U. S. A." The box contained a number of tablets and a package of powders in papers marked, "Physicians' 10 grain powders, Pheno-Bromate." The substance in the papers was a white crystalline powder not homogeneous. It was completely soluble in hot water. The hot water solution on cooling yielded a mass of thin crystalline plates. This material was found to melt at 113.5 C. It gave no color with ferric chlorid and a positive isonitrit test. The portion insoluble in ether amounted to 49.8 per cent. of the powder and consisted of potassium bromid. Quantitative determinations of potassium and bromin in the original solution confirmed this result. In my opinion, the powder consists of approximately equal quantities of acetanilid and potassium bromid. Qualitative tests of the tablets indicated that they had the same composition except for a small quantity of some incipient not entirely soluble in water. Yours truly,

HERBERT E SMITH,

Chemist New Haven Medical Association.

Before the Food and Drugs Act Pheno-Bromate was advertised as "a synthetic combination of the phenetid in and bromid groups, and not, as is the case with many analgesics and antipyretics, a mixture of various coal-tar derivatives" and as "the safest and best of all sedatives." The dose recommended in most cases is 20 grains—equal to 10 grains each of acetanilid and potassium bromid. Since the Food and Drugs Act has gone into effect its label states that it is "a perfect combination of a phenol and bromin derivative containing 282 grains of acetphenetid in, U. S. P., per ounce." What a boon it was to mendacious manufacturers that the patent rights on phenacetin expired before the Food and Drugs Act went into effect.—(*Abstracted from The Journal A. M. A., July 14, 1906, and April 18, 1908.*)

PHENOLPHTHALEIN

Phenolphthalein has long been used as an indicator in chemical reactions, but its use as a therapeutic agent¹ is com-

1. Those who wish to study the action and use of this drug further will find references to article in THE JOURNAL as follows: THE JOURNAL, Jan. 5, 1907, pp. 64 and 70; March 30, 1907, p. 1133; April 20, 1907, p. 1351; Nov. 21, 1908, p. 1782; Nov. 28, 1908, p. 1886. The first page mentioned discusses the introduction of phenolphthalein into medicine.

paratively new. When its laxative properties were first discovered it was exploited as a proprietary in Germany, and it was not long before the enterprising manufacturers in this country saw in it a potential gold mine and now nearly every proprietary drug manufacturer in this country has coined a proprietary name for it and is exploiting it, either alone or in combination with one or more other laxatives, and with more or less unwarranted claims.

Phenolphthalein itself has certain pretty well defined properties, but when a little of some other drug has been added wonderful therapeutic possibilities are claimed for the combination. The drug also has a definite market value and the pure substance in the form of powder, tablets or pills could not be sold at a price greatly in excess of the market value. Thus manufacturers, from business policy, add to it other drugs.

There are now on the market numerous more or less secret and "fancy" preparations of phenolphthalein for which a price is charged out of all proportion to the value of the preparation. Among these are:

Phenolphthalein Laxative (*El Zernac Co.*).

Exurgine (*Bischoff & Co.*).

Probilin (*Schering & Glatz*).

Prunoids (*Sultan Drug Co.*).

Laxine (*Columbus Pharmacal Co.*).

Phenolax Wafers (*Upjohn Co.*).

Laxaphen (*Parke, Davis & Co.*).

Phenalein (*Pax Chemical Co.*).

Thalosen (*Abbott Alkaloidal Co.*).

Laxothalen Tablets (*Pitman-Myers Co.*).

Veracolate (*Marcy Co.*).

And additional preparations are still coming out! Some of the preparations contain only the phenolphthalein with a coined non-descriptive proprietary name attached, but most of them contain in addition one or more of such drugs as cascara, sulphur, prune, senna, salicylic acid, ipecac and aromatics. The exploitation of phenolphthalein in this way gives opportunity to the manufacturers to make all sorts of strong claims, some of them directly contradictory, for their preparations. For instance, Phenolax, which is said to contain phenolphthalein and cane sugar, is claimed to be "a great success for all forms of constipation, intestinal atony and hepatic torpor." Of Laxothalen, which is said to contain phenolphthalein, aromatics and sugar, it is stated that "its action is confined to the bowel and it has practically no hepatic action." Of Prunoids, which is said to contain phenolphthalein, cascara, de-emetized ipecac and prunes, we have the old familiar statement that "the harmonious blending of the several ingredients will give results that cannot be obtained through their use

separately, nor will their use be followed by after-constipation."

At the time phenolphthalein was beginning to be exploited in this country *The Journal*² suggested that physicians who wished to try the remedy should prescribe it under its own name and not under fancy, coined names. Since phenolphthalein occurs in the form of an insoluble and tasteless powder there is no reason why special pharmaceutical preparations of it should be placed on the market. It can be prescribed in powder form, in pills, capsules or tablets. Thus given, the true therapeutic action of the drug would be apparent and its actual value arrived at.

The vice of this unscientific habit of prescribing names instead of drugs is stated in a forcible way in a letter received from Dr. V. E. Simpson, a teacher of materia medica and therapeutics in the medical department of the University of Louisville. He says:

"Recently P. D. & Co.'s representative left on my desk a sample labeled 'Laxophen.' The formula given is: phenolphthalein, gr. viii; salicylic acid, gr. 3/5, in each fluidounce, 'incorporated in a palatable chocolate base.' Now, in the first place, this name is one that the public will easily learn and will soon call for; in the second place, it is not a name that carries with it even a suggestion of its contents; and, finally, the physician acquires the habit of mechanically prescribing names instead of drugs, and in the burdening of his memory with the myriad of fantastic labelings he finds it impossible to remember even the drugs any one contains, much less the exact proportions of those drugs. Then suppose that a consultation is had; the consultant asks what is being given and the attendant answers that he is giving 'laxophen.' The consultant, perhaps, has not been sampled and inquiries about it; the attendant must answer, 'Oh, it contains some phenolphthalein and a salicylate, but I have forgotten the exact proportions. I have the literature on my desk. Had he used U. S. P. and N. F. remedies, which the consultant and every other doctor in the land has access to and should have some knowledge of, this embarrassment would not occur.'"

All of the above should remind the physician that he should write simple prescriptions, for drugs whose action he knows, adapted to the particular case and not for money-making combinations under fanciful, non-descriptive names exploited by the proprietary manufacturers. In this way he will not only save money for himself and his patients, but he will be giving them exact and effective treatment, he will know exactly what he is giving and learn for himself its effect, and he will be following the only method which entitles him to be called a scientific physician.—(*From The Journal A. M. A., April 30, 1910.*)

PURGEN

The physicians of the United States are receiving a neat package containing samples of a German proprietary—Purgen. The container is an ingenious one and, besides the tablets, includes a circular in English, although mailed in Europe, describing the remarkable virtues of this “new synthetic aperient.” It has been considered strange that this proprietary, which has been advertised so thoroughly in Europe, Australia, etc., should not have made its appearance in this country. Now it is here, and it is well that physicians should know what Purgen is and not be mystified and misled by the literature that they may receive regarding the preparation.

The following appeared in THE JOURNAL, Jan. 5, 1907, page 64, and is reprinted now as being especially timely:

The report of a case of poisoning by purgen (phenolphthalein) is the occasion for some pertinent observations by Dr. G. Brasch as to the proper introduction of such remedies to the medical profession (*Zeitschrift für Medizinalbeamte*, Abst. in *Apotheker-Zeitung*, No. 59, 1906). He agrees with Best that all such remedies should first receive a thorough trial in an institution subject to state supervision, before they are advertised to the medical profession, so that their harmlessness in appropriate doses may be ascertained by a method free from liability to error. The manner in which the manufacturers introduced Purgen to the profession and the laity is to be condemned, and probably led to the symptoms of poisoning exhibited in the case of Dr. Best and tends to discredit a remedy which is harmless and efficient if used in proper doses. The manufacturer of such a preparation is inclined, for obvious reasons, to put the dose of his preparation much too high. The most important point, however, is the objectionable character of the names given to such articles. The organic compound phenolphthalein has been known for a long time and has been widely used as an indicator. Accidentally it was discovered that phenolphthalein possessed laxative properties and thereon it was proposed (1901) as a medicine under the name “Purgen.” It is sold in tablets containing 0.05, 0.1 and 0.5 grain phenolphthalein mixed with sugar and flavored with vanilla. The author says: “But it is very desirable—and I regard this as the most important part of my communication—that phenolphthalein should be received into the *materia medica* under its own name. The addition of vanilla and sugar is to the highest degree superfluous and the arbitrary dosage in three strengths with the ridiculous designations, ‘baby,’ ‘for adults,’ ‘for patients confined to bed,’ are merely calculated to prejudice the physician who is accustomed to individualize in his prescriptions, against a remedy which is in itself an excellent one.”

As explanatory to the last sentence, it should be stated that in Europe Purgen is put up in three dosage forms, “infant Purgen for children,” containing $\frac{3}{4}$ of a grain; “adult Purgen

for chronic constipation," containing $1\frac{1}{2}$ grains, and "strong Purgen for invalids," containing $7\frac{1}{2}$ grains. The form in which it is being sampled in this country is in the medium dose, $1\frac{1}{2}$ grains.

Physicians should remember that the promoters of Purgen are simply introducing a chemical well known to laboratory workers for the last twenty years, which has been recognized as an aperient for at least seven years, and which can be purchased for 40 cents an ounce, whereas an ounce of phenolphthalein in the form of Purgen will cost \$3.20 wholesale. The enthusiastic praise of the remedy, found in the advertising circulars, should be subjected to critical judgment on account of its source and motives.

It is undoubtedly true, however, as we have previously stated, that phenolphthalein is worthy of a trial. In the *British Medical Journal*, Oct. 18, 1902, F. W. Tunnicliffe speaks of the virtues of phenolphthalein, and the conclusions reached by him were that it is a useful aperient, without irritating action on the kidneys, and is especially valuable in jaundice, its depressing action on the circulation being less than sulphate of magnesia.

Phenolphthalein is not in the Pharmacopeia, but has been included in "New and Nonofficial Remedies" by the Council on Pharmacy and Chemistry. From this we quote:

Actions and Uses.—Phenolphthalein acts as a purgative, but appears to possess no further physiologic action. A case of poisoning from taking 1 gm. (15 grains) is reported.

Dosage.—For adults the average dose is 0.1 to 0.2 gm. (1.5 to 3 grains) given as powder, in cachets, capsules or pills. It may be given with safety in doses of 0.5 gm. (8 grains), and these doses seem to be necessary to secure its effects in bed-ridden patients or in obstinate cases.

We have gone into this matter again so that our readers may have some knowledge of this remedy, and we hope that if they conclude to try it they will use the chemical itself and under its own name.—(*From The Journal A. M. A., Sept. 14, 1907.*)

"THIS PHYLACOGEN BUSINESS"

We reproduce below an advertisement that Parke, Davis & Co. are publishing in the drug journals of the country. We do this free of charge. Read it carefully. It may help you to realize how our profession—and through it the public—is being exploited by some pharmaceutical houses. In the editorial department, this week, something is said about "this Phylacogen business"—and, by the way, "business" is a most appropriate word to use in this connection. Parke, Davis & Co. have taken a dangerous and unproved agent—one that has not passed the test of scientific investigation—and are putting

it on the market apparently with but one object in view, that of forcing it on the profession. Every medical journal of

Don't you want some of this

Phylacogen business?

Here is the most important announcement that we have made to druggists in many months:

We are on the eve of a great promotion campaign on behalf of the Phylacogens—a campaign that will be continent-wide.

We shall publish a series of pointed, striking Phylacogen advertisements in a hundred medical journals.

To every physician on our American mailing list we shall send attractive, convincing Phylacogen literature.

Through our army of detail representatives we shall carry personal Phylacogen messages to the entire medical profession.

We shall use every legitimate means at our command to make known to physicians the remarkable efficacy of the Phylacogens.

This means orders from the doctors. It means a lot of good business for druggists. Don't you want to share in the profits?

Five Phylacogens are now offered:

Rheumatism Phylacogen
Gonorrhea Phylacogen
Erysipelas Phylacogen
Pneumonia Phylacogen
Mixed Infection Phylacogen

Marketed in vials of 10 Cc. capacity, 10 vials in a package.

LET US HAVE YOUR ORDERS

Home Offices and Laboratories,
Detroit, Michigan

Parke, Davis & Co.

"This Phylacogen Business." This is a reduced facsimile of a full-page advertisement appearing in drug journals. In the medical journals advertisements are appearing that claim "90 per cent. of recoveries" in "over 4,000 cases of infection that have been treated with Phylacogens."

importance that accepts this kind of advertising is getting some of "this Phylacogen business;" every pharmaceutical journal,

also, is getting some of "this Phylacogen business;" every uncritical physician who is willing to gamble with his patients' health is getting some of "this Phylacogen business." And the public? Well, the public doesn't matter. Hundreds of thousands of dollars' worth of Phylacogen will be sold; thousands of testimonials will flow in from unthinking physicians; the administration of Phylacogen will become a fad—all to the great financial benefit of Parke, Davis & Co. Then, like most proprietary rockets that describe a blazing parabola across the therapeutic heavens, it will come down, the inevitable stick. The public will forget it; the medical profession will discard it—and the corporation of Parke, Davis & Co. will, figuratively speaking, unctuously rub its hands and murmur: Good business while it lasted!—(*From The Journal A. M. A., Feb. 1, 1913.*)

Phylacogens—A Warning and a Protest

As the manufacturers of the so-called Phylacogens appear determined to spare no effort to stampede physicians into making free and confident use of these peculiar products in the treatment of all kinds of infections, the occasion is an appropriate one for the brief discussion of some questions in regard to Phylacogens and the Phylacogen propaganda that should receive careful consideration.

It is stated in the Phylacogen literature that the Phylacogens are neither bacterial vaccines nor serums as ordinarily understood, but sterile aqueous solutions of metabolic substances or derivatives of bacteria grown on artificial mediums. In view of the variability in the growth and activity of different strains of the same bacterium, and of the same strain at different times, constant and accurate dosage is not possible. This is an important consideration because the Phylacogens are primarily toxic, sometimes sufficiently so to produce even highly alarming reactions. In their circular concerning the Pneumonia Phylacogen, Parke, Davis and Company make the following statement (page 15): "A patient will never seriously object to the pain of the local reaction following subcutaneous administration, nor to the chill and other symptoms following the intravenous injection *if he has been properly prepared* for the results that are expected to follow the injections. Having consented to the treatment, the patient should never be informed as to the reaction *until the remedy actually has been administered*; he should *then* be told what to expect, an intelligent explanation should be made and his logical sense appealed to by showing him that the local reaction, the chill, etc., produce but temporary discomfort and should be entirely disregarded in view of the end to be attained—the cure of the patient's disability." (The italics are in the circular.) This is a peculiar "preparation" of the patient, to say the least, but the statement is quoted here primarily to empha-

size that the Phylacogens have serious toxic possibilities that cannot be accurately estimated beforehand. This being the case, there is no escape from the further possibility that such toxic effects at times may turn the scales against the patient, who, if the victim of pneumonia or other acute infection, already is struggling against a full measure of bacterial intoxication. The manufacturer, however, has no scruples on this account except that the patient should never be informed as to the reaction which will follow the administration of the Phylacogen *until the remedy actually has been administered.*

If we ask ourselves the question what evidence there is to show that the Phylacogens actually have the remarkable therapeutic virtues ascribed to them by their manufacturer, we find that there are no experimental observations whatsoever bearing on the question. Apparently no one has made any experiments on animals to learn whether these identical mixtures can prevent infections or influence experimentally produced infections. The claims rest solely on the results of clinical observations and when the records of such observations are examined we find that no definite conclusions are permissible because the observations lack reliable and adequate control. Thorough studies have not been made according to the statistical method whereby unbiased deductions are drawn from comparable series of cases treated in different ways. Physicians need not be told that the diseases under consideration are in large measure spontaneously curable diseases, at least so far as the acute diseases are concerned, and that all the chronic processes in question are subject to spontaneous variations in their manifestations, to remissions and intermissions.

In judging the effects of special methods of treatment of such diseases the physician must ever be on guard against the antique *post hoc ergo propter hoc* blunder, the overworked servant of the enterprising manufacturer and eager promoter of therapeutic fads. The circumstance that the manufacturer has been able to accumulate from different parts of the country under diverse conditions records of cases of pneumonia, for instance, treated with Phylacogen which after pruning at his hands yield a low death-rate, is of no significance whatever because there is no proper standard for comparison.

Much more might be said about the Phylacogens; they may come up for discussion again. Let us not forget, in any event, that they have toxic properties and that the claims for their therapeutic powers are much more extensive than the facts which are at present available would warrant.—(*From The Journal A. M. A., Feb. 1, 1913.*)

Risk of Malpractice Suits from Use of Phylacogens

To the Editor:—In view of the fact that THE JOURNAL has seen fit to give timely and well-warranted warning (Feb. 1, 1912, p. 373) against the use of Phylacogens, it would seem

that it might be proper to call attention to the fact that malpractice suits may result from the use of these products. Since the manufacturers advise against informing the patient of the "reaction" that may take place until the "remedy" has actually been administered, and until that time defer the "intelligent explanation" which should be forthcoming, one might pertinently ask how we are to make this explanation, being in the dark as to the nature of the "remedy" that we are using.

Careful perusal of the laws governing the practice of medicine will soon convince the careful physician that if he uses such a "remedy" as Phylacogen he will do so at his own peril and risk. This so-called remedy is nothing more than a secret proprietary, manufactured and controlled by a firm of manufacturing druggists, and its use in such a plainly serious disease as pneumonia or rheumatism, with their most frequent cardiac complications, has the possibility of results that may have serious consequences for the physician. It might be well for the physician who cares to run this risk to obtain a signed agreement from Parke, Davis & Co. that in event of his being sued for malpractice the firm will not only bear the expense of defending the suit but will also pay damages in case these are awarded. THE JOURNAL'S editorial, mentioned above, should be carefully read and well digested.—

FRANK H. JACKSON, M.D., Houlton, Maine.

(From *The Journal A. M. A.*, Feb. 8, 1913.)

Phylacogens Again

Our practical knowledge of immunity in infectious diseases and of the methods of prophylaxis and cure has advanced greatly during the past ten years. The results of the prophylactic immunization against typhoid and of the treatment of certain cases of furunculosis are familiar examples of what may be accomplished by active immunization with preparations of bacteria commonly known as vaccines. Definite and favorable results have been obtained by the use of vaccines prepared from the organisms concerned in various other acute and chronic infections. The results from the use of vaccines have appealed to physicians generally, and the use of vaccines in many infections has become more and more widespread. Vaccines for these inoculations are supplied by the biologic departments of drug houses, and the preparation and sale of these products have come to occupy a prominent and in all probability a remunerative department, if we may judge by the space devoted to their advertising.

The thinking physician knows, however, that the treatment of infection with vaccines requires careful attention and thought, together with a study of the clinical and pathologic conditions of the individual case, and that unless this requirement is met, more failures than successes follow. We do not

enter here into a discussion of the relative merits of stock and autogenous vaccines, or into the question as to what combination of mixed vaccines may be desirable. We assume that the average physician is doing his best with products supplied by the laboratories and that he has not the facilities for the preparation of autogenous vaccines. Under these conditions the problem of obtaining results is difficult enough, and the physician does not have to go far before he finds that even with the most painstaking work he is often unable to accomplish the cure of the infection in question, the consequence being that at present vaccines are discredited by many physicians.

And now the physician is asked practically to disregard the little knowledge he already has of the mechanism of infection and inject into his patients a mixture of toxic bacterial derivatives, called Phylacogens, and see what will happen. Something usually does happen, and the patient has good reason to remember the experience of the chill and violent constitutional symptoms that follow the injection. It hardly seems possible that physicians of experience ever would countenance the injection of such toxic substances into patients already overwhelmed with the poisons of infection, such as that by the streptococcus in erysipelas or the pneumococcus in pneumonia.

To complete the list of Phylacogens so that the busy practitioner need not waste his time in thought, provided he is unable to determine on clinical grounds the nature of the illness in his patient, he is provided with Mixed Infection Phylacogen, a preparation which has the merit of covering the ground, but only so far as name is concerned. We are inclined to look with pity on the polypharmacy of earlier centuries in medicine, and yet in this day of research into the specific causes of infection and of specific treatment we are asked to introduce into patients suffering from a known infection a mixture of many toxic substances, the action of no one of which is understood. This is an utterly irrational procedure, without any semblance of adequate experimental and theoretical basis, and in the end it will work great harm to the cause of legitimate and rational vaccine therapy, to say nothing of the harm inflicted on the innocent patient.—(*From The Journal A. M. A., Feb. 15, 1913.*)

The Phylacogens—A Menace to Vaccine Therapy

In two, three or four years—according to the amount of money that the exploiters are willing to spend in advertising the shotgun mixtures sold under the proprietary name Phylacogens—these products will have been relegated to that drear limbo of therapeutic shadows whose substance was born of men's thoughtlessness, or worse, cupidity. The existence of the Phylacogens, commercially speaking, is due to the vast resources of the corporation that fathers them. The time will

come, as it comes with all therapeutic agents whose value rests on no more substantial basis, when the combined experience of an exploited profession will overcome the counterforce of lavish and prodigal advertising. Then the Phylacogens will cease to interest any but the historian. Possibly that time may come sooner than we expect, for the physician of to-day is not so easily misled as the physician of yesterday and, more important yet, the public of to-day is more critical than the public of a decade ago. But whether it takes four years or one year for this therapeutic rocket to flare itself out, the tragedy lies not in the widely heralded reputed successes, but in the many unreported failures, perhaps deaths, following the use of experimental novelties. Bacterial derivatives, like the Phylacogens, are poisons, powerful, dangerous and little understood. Yet physicians are asked to use them on evidence submitted wholly by those who will benefit financially from their employment. Human nature being the same in the medical profession as elsewhere, the untoward effects will seldom or never be reported; the deaths which follow their administration will be ascribed, unconsciously perhaps, to "unforeseen complications." More than this, the confidence of the public in serotherapy—a therapy which, scientifically applied, holds greater hope for the treatment of human ills than any other yet discovered—will be rudely shaken by this rash use of dangerous and unproved products. How much of a setback scientific medicine will receive from the orgy of advertising in which the exploiters of the Phylacogens are at present indulging can only be surmised. Ten years from now, when the Phylacogen craze is recalled to their memories, thousands of our readers will blush with shame for the profession which tolerated it.—(*From The Journal A. M. A., Feb. 22, 1913.*)

PIX CRESOL

W. A. Puckner and W. S. Hilpert

In a paper on "The Abuse of Chemical Formulas"¹ several examples were given of the various methods employed by "patent medicine" concerns to give standing to their products by assigning to them a chemical formula. In some cases the formulas given are impossible, in other cases they may represent the chemical composition of only one constituent or it may be an attempt at both. To a chemist such formulas are absurd and on seeing a formula which he knows to be wrong he naturally thinks "Fake," "Ignorance," or both. Just such a formula ($C_5H_6N.SO$) applied to a product called Pix Cresol, manufactured by the "Pix Cresol Chemical Co., Kansas City, Mo., attracted our attention. No mention of such a formula can be found in such works as Richter's most complete Index

1. Puckner, W. A.: Report of the Chemical Laboratory of the American Medical Association, iii, 7.

of Carbon Compounds, nor the three supplemental volumes published, 1901-1905, by the German Chemical Society and Beilstein's Organic Chemistry (3rd Edit.). This fact, supplemented by inquiries from correspondents as to the composition of the substance made it seem worth while to make a chemical examination of it.

The examination was made and showed that the essential constituent was oxyquinolin sulphate. As potassium sulphate was also found it was concluded that Pix Cresol was a preparation containing a mixture of oxyquinolin sulphate and potassium sulphate, which has also been known in the past under the proprietary name, "Chinosol." At this time a letter was referred to the laboratory containing the report of an analysis of Pix Cresol, which showed the presence of oxyquinolin sulphate but no potassium sulphate. As this indicated that Pix Cresol contained as its essential constituent the substance now sold as Chinosol, the laboratory purchased a new specimen of Pix Cresol from the Chicago representative of the Pix Cresol Co. The examination² of this specimen showed that it consisted of approximately 21 per cent. oxyquinolin sulphate, about 8.3 per cent. potassium sulphate and the remainder almost entirely milk sugar.

It is evident, then, that both the specimen of Pix Cresol obtained directly from the manufacturers and also the one purchased more recently from the Chicago agent, contain as an essential constituent Chinosol of the composition sold formerly. The substance now sold under the name Chinosol and described in New and Nonofficial Remedies is pure oxyquinolin sulphate, and as the exploiters of Pix Cresol probably obtain their supply of oxyquinolin sulphate from the Chinosol Company, the sole American agents for Chinosol, it is to be expected that Pix Cresol should change in composition. It is probable that the analysis referred to the laboratory deals with a more recent specimen than the two examined in the Association laboratory.

EDITORIAL NOTE: In view of the Council on Pharmacy and Chemistry's findings, viz., that chinosol is a powerful antiseptic but a feeble germicide and considering that Pix Cresol contains but 21 per cent. oxyquinolin sulphate, the absurdity of the following claims made for Pix Cresol require no further comment:

"Pix Cresol is an Absolutely Sure and Yet Perfectly Safe, Never Failing Destroyer of Pus (*Staph. Pyogens Aureus*.)"

"It is germicidal, bactericidal, bacillicidal. It is certain as a micro-organism destroyer. It destroys absolutely."

"Ridding the blood of germs, it aids in rendering it replete with oxygen—"

"It kills the germs."

"No organism that is causative of morbid processes can withstand it."

"It destroys micro-organisms of all kinds. It destroys them absolutely."

2. The analytical details will be published in the annual report of the laboratory.

"The germ's tenacity of life does not avail against its action as germicide."

"It destroys the spores and toxins utterly."

A further estimate of the pseudo-chemical company, bearing the name of this "strongest, safest, least expensive medical antiseptic, disinfectant and deodorizer known" may be gained by a cursory glance at some of its "specialties":

"Maizinin compound, Positive Chill and Malaria Specific" the firm says, "prepares the parasites for execution by the leukocytes." It is said to contain arsenic, while the name implies the presence of some plant drug.

"Psora, the Syphilis Specific," is a shot-gun mixture said to be "the scientific combination of the soluble Triple Iodids with the active principles of Echinacea, Cascara amagra, Berberis aquif., and Phytolacca rad.," and is claimed to make "the syphilitic lesions disappear and fail to return."

"Rectoids—Cones for the treatment of all rectal trouble," are said to be "a combination of Rectin (Pix) compounded from Buckeye, Collinsonia, Hammamelis, Belladonna, Pix Cresol."

"Tablets for the Female—Pix Cresol Uterettes," it is said, "for sanitary purposes may be continued forever . . ."

When one realizes that this sort of pseudo-scientific twaddle is accepted by many physicians at its face value, the outlook for therapeutics seems dark, indeed. So long as the existence of such concerns is tolerated by the medical profession, so long will there be a crying need for a "Propaganda for Reform in Proprietary Medicines."—(*From The Journal A. M. A., June 10, 1911.*)

THE DANGER IN PROTONUCLEIN, A PREPARATION CONTAINING THYROID

Protonuclein was the subject of a little article in our *Queries and Minor Notes* Department, Nov. 16, 1912, page 1812. Dr. Reid Hunt, Washington, D. C., writes:

"*To the Editor:*—I have been requested by a physician to call your attention to certain statements which might well have been added to your reply to J. A. C. in regard to Protonuclein. Dr. Seidell and I examined several samples of Protonuclein some time ago¹ and by chemical and physiologic tests found that they contained the equivalent of 10 per cent. thyroid of 0.1 per cent. iodine strength (the actual amount of thyroid may have been greater or less for we did not know the percentage of iodine in the thyroid used). The dose recommended on the bottle was 6 to 12 grains every three or four hours; this represents from 0.6 to 1.2 grains of some of the commercial thyroid powders, and is sufficient to cause pro-

1. Hunt, Reid, and Seidell, Atherton: Commercial Thyroid Preparations and Suggestions as to the Standardization of Thyroid, *THE JOURNAL A. M. A.*, Oct. 24, 1908, p. 1385.

nounced thyroid effects in many conditions. Protonuclein was advertised as a 'perfectly harmless antitoxin, tissue-builder,' etc., although the dose of thyroid did not differ materially from that in 'Rengo' and 'Marmola,' two anti-fat nostrums which we examined at the same time. We called attention to the danger of using thyroid, the most powerful tissue-destroying drug known, in cases of typhoid, phthisis, etc., for which protonuclein was recommended, though these are conditions in which the physician is supposed to be exerting every effort to build up the tissues.

"You also speak of the 'high' nuclein content (0.28 per cent. phosphorus): the largest recommended dose would contain only about $\frac{1}{3}$ grain of nucleic acid—an amount which would probably have not the slightest effect, especially when given by the mouth.

"A sample of 'Protonuclein Special' was found to have twice as much thyroid as the ordinary Protonuclein; this also was stated to be 'perfectly harmless.'"—(From *The Journal A. M. A.*, Feb. 1, 1913.)

RESINOL

The Philadelphia branch of the American Pharmaceutical Association issued a pamphlet some two years ago in which the following appeared relative to Resinol and similar products:

"Within recent years there have been introduced a number of compound ointments that in their supposed range of therapeutic usefulness are scarcely equalled and certainly not excelled by the magic unguents of the quacks and charlatans of continental Europe, who, several centuries ago, essayed to cure all manner of disease by inunction or the simple application of compound ointments of secret composition.



"As typical of this modern class of panaceas we may mention Resinol. This preparation is being widely advertised at the present time in the daily papers as a valuable adjunct to Resinol Soap in the treatment of all kinds and varieties of diseases of the skin. The makers of this particular mixture, in the form of an ointment, modestly assert that it will

cure all skin diseases, and is also 'A Specific for Pruritis Ani, Itching Piles, and Pruritis Vulvæ.'"—(From *The Journal A. M. A.*, Nov. 6, 1909.)

RHEUMATICIDE

Inquiries have been received regarding the so-called Wallace treatment for rheumatism marketed by the Rheumaticide Company, New York City. It is advertised in the newspapers, and those who write for information are sent a booklet entitled "Rheumatism Cured" together with a circular containing testimonials. The Rheumaticide Company is said to have for its president one George E. Burroughs, while Dr. Thomas A. Wallace is referred to in the company's advertising matter as its "consultant," and a Dr. James C. von Spiegel, it is claimed, administers the nostrum in New York City.

Some of the claims made for this nostrum are:

"It is the only treatment that cures."

"Gout, Lumbago, and Sciatica promptly and permanently cured by our treatment."

"The only bona-fide cure for rheumatism."

"No treatment can permanently arrest and cure Rheumatoid Arthritis, Arthritis Deformans or chronic Gouty Arthritis, except our treatment."

"The Wallace Treatment neutralizes the toxins and kills the germs, thus effecting a permanent cure."

"The Wallace Treatment . . . is absolutely up-to-date."

"No specific treatment for rheumatism, worthy of the name, had ever existed until the introduction of our remedy."

Many other statements equally false appear in the Rheumaticide booklet. The booklet of testimonials carefully avoids giving the name and address of the individuals supposed to have been cured.

Contrary to the common run of "patent medicines," Rheumaticide is for hypodermic use and is supposed to be administered by a physician. The stuff comes in sealed tubes, each tube containing enough of the preparation for one "treatment" and costing \$2.50. The Association's chemists examined Rheumaticide and reported as follows:

A sealed tube containing a preparation called Rheumaticide was received. The tube contained about 1 gm. (15 grains) of a dark brownish-red, viscid liquid, which had an odor like iodine and somewhat like phenol (carbolic acid). The quantity of material was so small as to preclude anything more than a cursory examination, but a titration with tenth-normal sodium thiosulphate indicated the presence of about 9 per cent. of free iodine; a determination of the total iodine indicated the presence of about 40 per cent. From this it was concluded that the essential constituents of Rheumaticide are uncombined iodine and iodine-phenol with traces of hydriodic acid. A preparation obtained by mixing the following was found, after standing twenty-four hours, to have properties quite similar to those of Rheumaticide:

Carbolic acid	2 parts
Glycerin	4 parts
Iodine	4 parts

And yet the exploiters of Rheumaticide call their nostrum a "serum" and inveigh against the use of drugs in this disease! For example:

"Drugs—confessedly useless even by those who prescribe them."

"It relieves the pain rapidly, but the relief thus obtained, unlike that from drugs, is permanent. . . ."

"Introduces no substances foreign to the economy."

In short, the exploitation of Rheumaticide is merely an impudent attempt to foist a nostrum on the public with the aid of such physicians as are willing to become partners to such a scheme. The annual report of the counsel to the Medical Society of the County of New York for 1911 stated that the Rheumaticide Company was found guilty of practicing medicine and that a fine of \$250 be imposed.—(*From The Journal A. M. A., Jan. 4, 1913.*)

SALACETIN

Some time ago we wrote to Messrs. Bell & Co., calling their attention to the fact that we had made an examination¹ of their product, salacetin, and that as a result of such examination it was found to be a mixture, which did not coincide exactly with their description of it. They replied: "Our description of salacetin is correct and we have nothing more to impart except that any one publishing any different formula from that given in our circulars will be held responsible by us."

The description they give is as follows:

Prepared by the interaction, with heat, of salicylic acid, glacial acetic acid, and purified phenylamine.

This sounds very scientific, but when we remember that acetanilid is a result of the action of glacial acetic acid on phenylamine (anilin) their description is cute, to say the least. Of course, there is "interaction with heat" when salicylic acid is combining with bicarbonate of sodium to form salicylate of sodium. Further, there is, no doubt, some "interaction with heat" when the substances are rubbed together in mixing them and when they are going through the mill to form tablets, not to mention the heated imagination of the promoters of this "synthetic."

The following taken from the advertising literature furnished by the manufacturers and distributed by them, is quoted to show the claims made for this preparation:

Salacetin is free from Toluodine and produces no harmful cyanosis. In the treatment of Acute Bronchitis, Grippe, Influenza, Tonsillitis, Lithemic Headaches, Rheumatism and Neuralgias, it relieves pain, reduces inflammation and abnormal temperature, and eliminates uric acid more quickly and thoroughly than the salicylates, and without causing depression or stomachic or renal irritation.

1. THE JOURNAL A. M. A., June 3, 1905; reproduced on page 10 of this book.

Have personally interviewed thousands of physicians, including every prominent one in the East, and can honestly state that we have never known of anything at once so efficient and so unobjectionable in the removal of rheumatic and neuralgic pain and other symptoms of the uric-acid accumulation. . . . La Grippe and Acute Bronchitis it relieves pain and coughing, reduces inflammation and temperature, makes the patient comfortable, and checks the progress of the disease. In Tonsillitis its action is specific. . . . In Acid Cystitis, it neutralizes acidity, reduces inflammation and removes irritation. . . . In Dysmenorrhea it relieves pain and congestion with no hallucinations, constipation or danger of a drug habit.

In Dysmenorrhea and Ovarian Neuralgias try Sal-Codeia—Bell. It will relieve the pain as well as morphia. It will not check any secretions, induce any habit, cause any depression or inconvenience of any kind.

Of course, it is well understood that acetanilid is a valuable remedy in many instances, if used with caution and when indicated. It certainly has some therapeutic value. There is no doubt that it relieves pain of various kinds. It is to be presumed that combining salicylate of sodium with it will have certain beneficial effects in certain rheumatic conditions, on the supposition that salicylate of sodium and acetanilid are both used with more or less success in certain of these conditions. Also, the combining of bicarbonate of sodium, carbonate of ammonia, caffeine, citric acid, one or several of these, may result in a fairly good combination, but these combinations can be found in the list of preparations of all our large manufacturing pharmaceutical houses, which supply them at one-tenth of the cost of these secret remedies. The physician in using these preparations put out by reputable recognized manufacturing pharmaceutical houses, not only is prescribing preparations that are non-secret, but is using remedies that cost one-tenth as much as the secret preparations, which are exploited under fanciful names and pushed by ridiculous claims.—(*From The Journal A. M. A., July 1, 1905.*)

SAL-CODEIA—BELL

According to the advertisements "Salacetin"

" . . . is a combination with heat of salicylic and glacial acetic acids with phenylamine, the irritating, depressing and blood-corpusele destroying elements removed."

According to the Committee on Chemistry of the Council on Pharmacy and Chemistry of the American Medical Association, whose report was published in THE JOURNAL of the American Medical Association June 3, 1905, p. 1791, "Salacetin" is a mixture of acetanilid, salicylate of sodium and bicarbonate of sodium. Sal-Codeia (Salacetin-Codein), therefore would be the same as the above with codein added. Of course, acetanilid and codein will relieve pain (it could not do otherwise) and consequently make a very good combination in certain conditions, if not used too often and if used with care. Although the continued use of codein is not likely to produce a

drug habit, it, as well as acetanilid, does so sometimes, and it must be remembered that codein is a motor paralytant, and is not the best combination to be used with acetanilid. For those who wish to give a combination of acetanilid, salicylate of sodium and codein, the following prescription is suggested:

R. Acetanilid .....	.3i	4|
Sodii bicarbonatis .....	.3ss	2|
Sodii salicylatis .....	.3ss	2|
Codein sulph.	gr. vi	14
M. et div. chart No. xxiv.		

This will make five-grain powders which may be put in papers, capsules, cachets or tablets. Each will contain $2\frac{1}{2}$ grains (0.15) of acetanilid and $1\frac{1}{4}$ grains (0.075) each of sodium salicylate and sodium bicarbonate, with $\frac{1}{4}$ grain (0.015) of codein.

The doses of acetanilid and of codein approximate the average adult doses, but the sodium salicylate, to have any appreciable effect, must be increased, for $1\frac{1}{4}$ grains of salicylate of sodium in a dose is insignificantly small. Sodium salicylate with acetanilid makes a fairly good combination in certain rheumatic troubles, but it is not indicated by any means as a cure-all, as one would judge from the literature sent out by the Sal-Codeia—Bell people.—(*From The Journal A. M. A., Nov. 4, 1905.*)

SAL HEPATICA

This wonderful mixture, according to the advertisements, is "a combination of the tonic, alterative and laxative salts similar to the celebrated 'bitter waters' of Europe, as determined by actual chemical analysis of these waters, and fortified by the addition of lithia and sodium phosphate"—a description, by the way, that is used *verbatim et literatim* by the A. D. S. in describing its "Hepatic Salts."

As usual, in inflicting this remedy on the public, the manufacturer makes use of cast-off medical theories and unwarranted claims. The marked absurdity of some of the statements indicates that they are intended for the lay public. Surely no nostrum-maker would suppose that he could delude even the most credulous portion of the medical profession into believing the statements made in the advertisements concerning sal hepatica, namely, that the same remedy is a uric-acid eliminant, hepatic stimulant, a specific for gout, rheumatism, cirrhosis of the liver, Bright's disease, gravel, tuberculosis, struma, marasmus, dyspepsia, infantile fluxes, etc.

The following analysis of "Sal Hepatica" was published in the *Druggists Circular*, February, 1909, p. 78:

Salt	13.05 parts
Sodium sulphate	26.27 parts
Sodium phosphate	29.80 parts
Sodium bicarbonate	18.00 parts
Lithium phosphate	0.04 part
Citric and tartaric acids, to make.....	100.00 parts

Our old friend lithium is added, undoubtedly, to influence the few physicians who still accept the discarded theory regarding the solvent effect of lithium salts on uric acid. Such physicians must be easily influenced if they can believe that 4/10,000 parts of lithium would have any therapeutic effect!

Thus once more the medical profession is asked to indorse a nostrum consisting of a mixture of simple saline laxatives such as any physician can prescribe and any druggist prepare, and to sanction the blatant advertising of the mixture as a specific in such grave maladies as cirrhosis of the liver and Bright's disease. This advertising has already made the drug known to the laity, who see in the shrewdly chosen name an indication of the use of the nostrum in liver disease and that undefined but favorite malady of the public, "biliousness."

The abuse of saline cathartics by the public is an evil deserving of serious attention. Rightly or wrongly, the laity fear constipation, and naturally take what they are taught to believe is the cheapest and simplest course for its relief, self-drugging by means of saline cathartics or the extensively advertised purgative mineral waters. This habit is responsible for much of the distressing spastic constipation that exists, and its accompanying neurasthenia. The advertisement and sale to the laity of such a nostrum as "Sal Hepatica" can only increase these evil results and the physician who aids and abets the evil by using the preparation should reflect whether he is thereby not only encouraging a fraud on the public, but also, what is even worse, helping to impair the public health.—(From *The Journal A. M. A.*, March 26, 1910.)

SANATOGEN

Cottage Cheese—The New Elixir of Life

The psychology of advertising is nowhere better exemplified than in the "patent medicine" and proprietary fields. The reason is evident. Knowing that the general tendency of the human organism is toward health rather than toward disease and that the "healing power of nature"—*vis medicatrix naturæ*—will account for a large proportion of recoveries from sickness, it is not to be wondered at that thousands of preparations sold for medicinal purposes receive credit that is entirely undeserved. The awarding of such undeserved credit is largely due to the universal tendency of those who are not trained in science to apply the *post hoc, ergo propter hoc* argument in all matters relating to health and disease.

John Smith suffers from a passing indisposition. When he recovers he credits his recovery to whatever he may have done just preceding that recovery. If he has received medical attention, the physician gets the credit; if he has taken

"absent treatment," Christian Science is responsible; if he has taken sugar pills, "Prof." Munyon gets the praise—while, as a matter of fact, if he had taken none of these, he would have recovered since he was only temporarily indisposed.

Nor are laymen the only ones that fall into such errors. Many physicians who prescribe new, widely-advertised preparations are likely to give those products credit for whatever favorable change may take place in their patients' condition. This failing is not a modern one. In 1842 Dr. Benjamin Brodie wrote: "We have no doubt that many well-instructed medical practitioners have not sufficiently considered what course a given disease would take if it were left to itself; and as to others, it is not possible that they should have any real knowledge on the subject. With the majority of persons a recovery will generally pass for a cure."

THE POWER OF ADVERTISING

While every physician is perfectly familiar with the facts just stated, it seems worth while to give them as a probable explanation of what is to follow. Within the last few years the medical profession and the public of this country have been asked to believe that a combination of cottage cheese—or its equivalent—with a small amount of glycerophosphates is capable, when sold under a proprietary name and with the right kind of advertising, of producing physiologic effects that are little short of marvelous.

The name of this elixir of life is Sanatogen, and it is doubtful if the history of modern advertising furnishes any more notable example of the commercial potentialities of publicity than that exhibited in the exploitation of this product. The Sanatogen advertising campaign is probably the most skilful piece of work of its kind ever done. On both sides of the Atlantic, every effort has been made to endow the advertisements with a dignity which, to those who know the very ordinary nature of the product advertised, is grotesquely out of keeping. Only the highest-class magazines and newspapers have been patronized; the "copy" has been so written as to appeal not to the ignorant but to the intelligent. Testimonials from men whose names are well known, even though by training and education they are incompetent to pass judgment on a product of this kind, and fulsomely laudatory letters from men whose education and training should have taught them better—both have been used with all the skill of the trained publicity man. In short, Sanatogen stands as a monument to the power of printers' ink.

The claims for this product have already been referred to in *THE JOURNAL*, but it will do no harm to bring them again before our readers. Here are some taken from advertisements:

"The Re-Creator of Lost Health."
 "Sanatogen is . . . a rebuilding food."
 " . . . revitalizes the overworked nervous system."
 "Specific nerve tonic action."
 "Most reliable and scientific of all nutrients."
 " . . . in certain diseases it exerts a *specific action* which renders it a valuable adjunct to other curative measures."
 "It stimulates metabolic activity of tissue cells and secures more complete oxidation of energy yielding elements."

THE GRAPHIC, November 24, 1909

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A GIFT FROM THE
 GODDESS OF HEALTH

Sanatogen

New Life for Nervous Sufferers!

"My nerve was in a awful state!"
 "This is the first description ever of what one of people whose life is made miserable by nervous conditions which, if unchecked, may lead to the grave."
 "To such sufferers there is the possibility of a "new life," with the recuperation of all the old habit of physical strength and mental equilibrium which leads life worth living."
 "This "new life" is offered by Sanatogen, which cures more than ten thousand physicians have professed to understand; namely, describing the conditions which they have obtained by what is actually the world's superior stimulant of nerves, brain, and body."
 "Sanatogen is, therefore, pre-eminently beneficial in nervous debility and headache, weakened and disordered nerves, brain lag, insomnia, loss of memory, disordered digestion and irregular, excessive, loss of vitality, and the loss of weight and strength which are the inevitable consequences of missing the most like Consumption."
 "Sanatogen's action is due to its constituents—rich protein and albumen of purest quality, chemically combined to form a pure compound which is at once a food and a tonic, profoundly powerful in its action, yet so light and mild as itself that it is almost instantly assimilated by the most delicate children."
 "Sanatogen is absolutely the supreme command in its effectiveness for all nerve diseases, for it is easily digested, rapidly assimilated, and perfectly absorbed."
 "Hundreds of thousands of people, among whom are many well-known men and women, have voluntarily testified that Sanatogen has saved them from death. A selection from them appears on this page."
 "Sanatogen may be obtained of all chemists. Price 1/6 to 5/6. Descriptive pamphlets will be sent free on application to The Sanatogen Co., Ltd., Christian Street, London, W.C.
 Send a postcard to-day, mentioning this page.

Dr. Gilbert Parker, M.P.:
 "I have used Sanatogen with extraordinary benefit. It is a true food tonic, which in some instances has cured, and in some cases has helped to cure, the most severe cases of nervous debility and brain lag."
 Dr. Frederick Mott, M.P.:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 Dr. William Hall, M.D.:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 Dr. Charles J. Canning, C.B., M.D.:
 "Sanatogen is an excellent tonic food."
 Dr. John Hall:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 The Lord Bishop of Norwich:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 The Rev. Father Bernard Vaughan:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 Lord Edward Cavendish:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 Lord Ronald Dunsford Gower:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."
 Lady Dorey Somerset:
 "I have used Sanatogen for many years and it has been a most useful and reliable tonic."

THE LIFE FOOD AND NERVE TONIC

SANATOGEN

REJUVENATE AND REVITALIZE

Greatly reduced photographic reproduction of a full-page Sanatogen advertisement appearing in the London *Graphic*. The *Graphic* was one of the London magazines that refused to accept an advertisement of the book issued by the British Medical Association, exposing "patent-medicine" frands.

"Sanatogen nourishes the system in a persistent, gradual, cumulative way, so that its best effects unfold themselves in a systematic, substantial progression to health and strength. It follows that a regular and prolonged administration of Sanatogen is necessary for the attainment of lasting results."

"Sanatogen is a scientific compound, every particle of which represents the finest concentrated, tissue-constructing nutriment, endowed with unique revitalizing and rejuvenating powers."

"Sanatogen contains over 700 per cent. more tissue-building, life sustaining nourishment than wheat flour."

Truly a wonderful preparation—if these statements are true! But they are false—most of them at least. And in that many who can ill afford it may be led to pay a ruinously high price for a very ordinary food, the statements are viciously and cruelly false.

In view of the properties with which Sanatogen is credited, its composition is naturally a matter of more than ordinary interest. What is this life-giving product? A package of Sanatogen was purchased and subjected to examination and analysis in the Association's laboratory. Our chemists report:

LABORATORY REPORT

Sanatogen is a fine, nearly white powder having a faint yellowish tinge. A circular which is enclosed in the package states:

"Sanatogen is a definite organic combination of 95 per cent. of pure, specially prepared casein and 5 per cent. of sodium glycerophosphate,"

Qualitative tests indicated the presence in Sanatogen of casein, sodium, a phosphorous compound and glycerin or a glycerin compound. Starch and sugars were absent. Quantitative analysis showed that the composition of the specimen was essentially as follows:

Water (loss at 130 C.).....	8.60
Ash	6.23
Casein and other proteins (N \times 6.38).....	83.10
Casein (N in precipitated casein \times 6.38).....	80.57
Proteins other than casein (by difference).....	2.53
Sodium glycerophosphate ($\text{NaC}_3\text{H}_7\text{O}_6\text{P}$) (P in filtrate from casein precipitation \times 6.79).....	5.59
Insoluble matter	0.84
Undetermined	1.87

While these results show that the claims concerning the composition of Sanatogen are not entirely correct, they indicate that the essential element in Sanatogen is casein.

The slight variation between the composition claimed for Sanatogen and the composition as determined by chemical analysis is of minor importance. Whether there is 83 per cent. of casein as found by the Association's chemists or 95 per cent. as asserted by the manufacturers matters little. The important fact is that casein makes up about nine-tenths of the preparation and, as must be perfectly evident, Sanatogen derives whatever food value it may have from that casein.

Casein is known in its commonest form as the curd in milk, or as "cottage cheese." After the cream has been separated, the milk which remains contains nearly all the casein and milk sugar originally present but practically none of the fat.

WHY NOT COTTAGE CHEESE?

Whence comes the stimulation of metabolic activity, the wonderful nourishment of the system, the marvelous revitalizing and rejuvenating power claimed for Sanatogen? Not from the sodium glycerophosphate, for the consensus of opinion among leading physiologists indicates that phosphorus in the form of glycerophosphates has little influence on metabolism. Not from the glycerin, surely, for even granting that glycerin has food value the amount present is so small as to be negligible. The real source of energy in Sanatogen, then, lies in the casein which comprises about nine-tenths of its ingredients.

Kind of Food Material	Price per Pound	Cost of 1,000 Calories Energy	Calories. Energy for One Dollar
Sanatogen	\$4.54	\$3.01	332
Celery .....	.05	.77	1,300
Eggs (\$0.36 per doz.)..	.24	.39	2,600
Beef, round .....	.14	.16	6,300
Milk (\$0.07 per qt.)...	.035	.11	8,850
Pork, loin roast.....	.12	.10	10,350
Butter .....	.30	.09	11,250
Mackerel, salt dressed..	.10	.09	11,350
Cheese .....	.16	.08	11,850
Beef, stew meat.....	.05	.07	15,300
Wheat bread .....	.06	.05	20,000
Rice .....	.08	.05	20,250
Sugar .....	.06	.03	29,200
Pork, fat salt.....	.12	.03	29,500
Potatoes .....	.01	.03	29,500
Beans, white .....	.05	.03	30,400
Oatmeal .....	.04	.02	45,000
Cornmeal .....	.025	.02	65,400
Wheat flour .....	.025	.02	65,400

Of course Sanatogen, being composed largely of casein, has some food value. What that food value is may be seen by the accompanying table which compares the yield of energy for Sanatogen with that of a number of staple food products, the figures for the latter having been adapted from Professor Atwater's calculations. This table shows that, from the standpoint of economy in the purchase of energy, no other food in the list is so poor as Sanatogen. While the manufacturers claim that "Sanatogen contains over 700 per cent. more tissue-building, life-sustaining nourishment than wheat flour," the table shows that one dollar's worth of wheat flour contains as much energy as one hundred and ninety-seven dollars' worth of Sanatogen!

AN INQUIRY

Like all "patent medicines," Sanatogen is exploited by the testimonial route. Actors, authors, politicians and not a few physicians—the latter, to the credit of the American profession, be it said, being chiefly Europeans—have testified to the wonderful properties of this product. Believing that it would be of interest to learn what scientific men thought of Sanatogen a letter of inquiry was written to several men whose



Some of the reasons for the sale of Sanatogen! A few specimen advertisements of Sanatogen's enormously expensive advertising campaign.

training particularly fits them to express an impartial opinion on a question of this kind. The following inquiry, expressed in practically the same words, was propounded:

Is it possible for a product, even if it has the composition claimed for Sanatogen, to have properties as a food and medicine which are claimed for this preparation?

The replies to this inquiry are interesting and instructive, although they are what might have been expected from men whose judgment has not been warped by the glittering claims of the Sanatogen publicity agents.

THE REPLIES

Dr. Lewellys F. Barker, professor of medicine, Johns Hopkins University, medical department, says in part:

"If Sanatogen consists simply of casein and sodium glycerophosphate, it is pretty obvious that all of its good effects (except perhaps the psychic influence of taking an expensive and, to the layman, mysterious remedy) can be gotten by including milk and eggs in the food. . . .

"The objection to Sanatogen lies, it seems to me, not in the assertion of its proprietors that it is a 'food and a tonic,' but in the misleading of the public and physicians into the belief that it possesses extraordinary powers which make it worth while to pay the price charged for it in order to get it. Very extravagant claims are being made for it in advertisements in the lay press. If just as much, and more, good in the form of 'food and tonic' can be obtained from a dollar's worth of milk and eggs as from a dollar and ninety cents' worth of Sanatogen, it is surely the duty of the medical profession to inform the public of that fact."

Dr. Frank Billings, professor of medicine and head of the Department of Medicine, University of Chicago, expresses his opinion thus:

"Of course, the thing is a fraud both as a food and as a tonic. Even if it met all the requirements of the statements made of it by the makers, it would not be any more of a food than as much casein taken in milk and probably not as good; or any more than some other albumin taken in some other form. I do not know just what pharmacologists say of the glycerophosphate of soda, but so far as my own clinical observations go I never saw any result from its use that could be called specific, that is, due to the drug."

Dr. Richard C. Cabot, assistant professor of clinical medicine, Harvard Medical School, says:

"In reply to your letter respecting the properties of Sanatogen, I would say that in my opinion it is vastly improbable that it has the properties claimed for it in the advertisements which you enclosed to me. I have no doubt that it is a fairly good food. I see no reason to believe that the phosphorus that it contains has any special action."

Otto Folin, professor of biological chemistry, Harvard Medical School, expresses himself thus:

"For myself, or for any one who would take my advice, I would prefer a glass of milk to Sanatogen when hungry and plain glycerophosphate to Sanatogen when in need of a tonic.

"Medicated feed used to be sold for horses. To me the 'food tonic' combination represents one of the most unscrupulous fake ideas used by manufacturers of patented articles to fool the public."

Ludvig Hektoen, professor of pathology, University of Chicago, says in part:

"In my opinion, no attention whatsoever should be paid to the claims advanced in favor of 'Sanatogen' as food and as medicine, because the statements made in the advertisements of this product are extravagant, misleading and quackish."

J. H. Long, professor of chemistry and director of chemical laboratories, Northwestern University Medical School, expresses the following opinion:

"With every reading of the advertising literature of the Sanatogen Company I am more and more impressed by the gross exaggeration of the claims made for this mixture of casein and sodium glycerophosphate. Cow's milk contains $3\frac{1}{2}$ to 4 per cent. of casein, associated with soluble phosphates. It is absurd to think that this casein after precipitation from the milk has a greater nutritive value than it has in its native condition. Casein, at best, is probably less valuable as a food than are certain other proteins, because of its lack of some of the amino groups essential in tissue building, and the addition of a glycerophosphate cannot supply this deficiency.

"This is not the first attempt to exploit casein preparations. The earlier efforts failed in practice because they were based on a wrong conception concerning the physiologic value and importance of this protein. The assumption that in the case of Sanatogen a 'definite organic combination' with the glycerophosphate is formed cannot be taken seriously by chemists. We have witnessed many such efforts to palm off mixtures as definite organic compounds, and in this way to claim for them a value in excess of that which they actually possess."

Graham Lusk, professor of physiology, Cornell University Medical College, after calling attention to the falsity of the claim that Sanatogen is "a life-sustaining agent in disease," says:

"If one considers the casein content alone, the dose of Sanatogen recommended in the circular would furnish, at best, about what is contained in a pint of milk, or one-fourth of the total of the protein necessities of the body—using a low protein requirement. That sodium glycerophosphate has any distinctly beneficial physiologic action has never, to my knowledge, been shown.

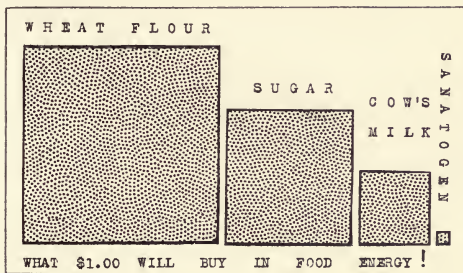
"It is a great pity that the public does not realize the splendid and economical value of milk, bread and the ordinary vegetables, cereals and meats, as true 'tonic food stuffs,' in contradistinction to prepared nostrums whose sale depends on a psychic stimulus applied to a susceptible populace."

H. Gideon Wells, associate professor of pathology, University of Chicago, says:

"There is nothing in my knowledge of physiologic chemistry which would lead me to believe that a mixture of chemically isolated casein and sodium glycerophosphate would possess any effect more favorable than that of a corresponding amount of milk. I can easily believe that it would be less valuable

than milk. The successful practice of many commercial houses, of isolating one of the constituents of our food, and ascribing to it marvelous nutritive or therapeutic properties, is one of the most telling bits of evidence of the inadequacy of the education of the medical profession in physiology and physiologic chemistry that can be conceived."

The consensus of opinion thus expressed is only what might have been expected from men who could discuss the problem in a purely judicial spirit and with a freedom from that bias which seems to be inseparable from the consideration of the simplest of mixtures that have been glorified by a proprietary name.



WHAT ONE DOLLAR WILL BUY IN FOOD ENERGY! A COMPARISON OF THE CALORIC VALUES OF SANATOGEN, COW'S MILK, SUGAR AND WHEAT FLOUR. BASED ON THE TABLE ACCOMPANYING THIS ARTICLE.

THE TYRANNY OF WORDS

Herr Teufelsdröckh was right when he panegyriized clothes. And the worship of clothes is carried to the extreme nowhere so much as in the case of word-clothes. The most plebeian things when bedecked in sufficiently imposing word-finery are endowed with the attributes of royalty before which the average intellect bows down. Neither cottage-cheese nor glycerophosphates, when exposed naked to the world, commands any overweening respect; combined and dressed in the magic word "Sanatogen," they receive the homage of those whose judgment is blinded by the glittering trappings of word-finery. Some day, possibly, there will be a democracy of intellect which will refuse to prostrate itself before mere word-raiment and will insist on appraising things at their naked worth. When that day comes, proprietary humbugs like Sanatogen will have become as extinct as the dodo and the great auk. (*From The Journal A. M. A., April 20, 1912.*)

SYRUP OF COCILLANA COMPOUND

A physician in a small town in Nebraska writes: "In looking over a prescription file not long ago I found a prescription which I copied and am sending to you. It is a good example of shot-gun prescribing. I do not give the name of the prescriber, and you will please not mention from whence this comes. The doctor who wrote this has had about ten years' experience."

Here is the prescription given exactly as transmitted by our correspondent:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	3i
Bromoform Bronchial Anodyne.....	3ii
Syrup Cocillana Comp. q. s. ad.....	3vi
Teaspoonful every two or three hours.	

It is evident that the prescriber is an eclectic. As a matter of fact, in a second letter from the physician who forwarded the prescription, we are informed that the prescriber is a graduate of an eclectic institution not a thousand miles from where he practices. The "Sp" in the prescription does not mean "Spiritus," but specific tincture. The prescriber is an advocate of specific remedies, one of which should fit the condition, but he is broad-minded enough to call help from the outside, and so adds fifteen other remedies to the specific selected, including alcohol. The inability of one mind to remember all the ingredients of so complex a mixture will explain the fact that ipecac is duplicated, occurring both as a specific tincture and as an ingredient of Bromoform Bronchial Anodyne. The latter, the manufacturers tell us, contains in one fluidounce:

Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	1½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.

Syrup Cocillana Comp., one of the "elegant specialties" of Parke, Davis & Co., of which they certainly ought to be very proud, contains, we are told, in one fluidounce:

Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera.....	120 min.
Syrup of wild lettuce.....	120 min.
Tinct. of cocillana.....	40 min.
Syrup of squill comp.....	24 min.
Cascarin, P. D. & Co.....	8 grs.
Menthol	8/100 gr.

This "elegant specialty" of Parke, Davis & Co. is not only a shot-gun prescription. but has as one of its ingredients a mixture itself containing three ingredients, namely: Syrup Squill Comp. (Coxe's Hive Syrup), making ten in all—a beautiful example of scientific pharmacy.

We wonder if our eclectic brother really appreciated that his prescription, written out, would be as follows:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	3i
Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.
Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera.....	120 min.
Syrup of wild lettuce.....	120 min.
Tinct. of cocillana	40 min.
Fluidextract of squill.....	60 min.
Fluidextract of senega.....	60 min.
Antimony and potassium tartrate.....	1 gr.
Cascarin, P. D. & Co.....	8 grs.
Menthol	8/100 gr.

To use a slang expression, this is certainly going some!—
(From *The Journal A. M. A.*, March 18, 1911.)

"A Cough Syrup with a History"

The following letter was received from Dr. George P. Tolman, Watsonville, Cal.:

"To the Editor:—The enclosed advertisement was underscored and mailed to me by my druggist. The properties of cocillana are similar to ipecac. The dose of the fluidextract is from 10 to 20 minims. Each fluidounce of the extraordinary (!) dark-colored cough marvel of P. D. & Co. contains 40 minims of the tincture. If the tincture of cocillana is 10 per cent. (the average tincture strength) you can see that to get a minimal dose of the drug you would have to take 2½ fluidounces of the syrup.

"Query: Can we still hang on to the old-fashioned cough mixtures freshly compounded by our druggists or shall we put our shoulders to the wheel and help P. D. & Co. save the nation and make a few dollars for the druggist?"

"The secret of its prompt recognition lay in its unusual composition." Nay; its prompt recognition lay in liberal and persistent advertising. "It quickly made a 'hit' with physicians,"—because too many physicians, like other human beings, are susceptible to the psychology of advertising. Here is the "unusual composition," as given by the manufacturers:

"Tinct. Euphorbia pilulifera, 120 mins.; Syrup Wild Lettuce, 120 mins.; Tinct. Cocillana, 40 mins.; Syrup Squill Compound, 24 mins.; Cascarin (P. D. & Co.), 8 grs.; Heroin hydrochloride, 8-24 gr.; Menthol, 8-100 gr."

The following is a reproduction of the advertisement referred to:

A cough syrup with a history.

Syrup Cocillana Compound established itself with the medical profession in a single season. It was introduced in 1906. The secret of its prompt recognition lay in its unusual composition. The formula showed a rare combination of astringents and sedatives. It quickly made a "hit" with physicians. The name "Syrup Cocillana Compound" soon began to appear on prescriptions. Today this agent is the most widely prescribed of all preparations for cough.

Syrup Cocillana Compound is a profitable product for the druggist to sell. It commands a good price. Being totally unlike the common, ordinary dark-colored "cough mixtures," it does not enter into competition with them. Be prepared to dispense it.

Supplied in pint, 5-pint and gallon bottles.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

As we have said above, Parke, Davis & Co. should be proud of this "elegant specialty." It would be hard to find a better specimen of a shotgun prescription; not only does the prescription contain eight ingredients, but one of these ingredients (compound syrup of squill) itself contains three.

As our correspondent correctly states, the drug from which the name (not the action) of the preparation is derived comes from Bolivia and has properties similar—but evidently inferior—to ipecac. That it possesses but little therapeutic value is perhaps best evidenced by the fact that, in spite of the propaganda made for it by Parke, Davis & Co., neither the drug nor any preparation of it is listed, so far as we know, by any other large pharmaceutical house, with one exception. Besides cocillana the preparation contains two other obsolete drugs, wild lettuce and euphorbia pilulifera. The activity of the "cough syrup," it is needless to say, depends in the main on the drug which is more or less buried in the published formula: heroin hydrochlorid. At one time Parke, Davis & Co. admitted that the preparation owed its chief value to heroin. In a letter to the Council on Pharmacy and Chemistry the firm said:

"The physiologic action of this syrup is that which would be suggested by the constituents. Because of its activity the most prominent action would be that characteristic of heroin hydrochlorid."

Without doubt the important ingredient, from the point of view of therapeutic potency, is the heroin; and it is this drug doubtless, that makes the mixture a good "repeater." Syrup Cocillana Compound is a nostrum sailing under false colors. Whether its continued use is due to its mysterious, meaningless, misleading name or merely to insistent and persistent advertising methods of Parke, Davis & Co. is a question. Neither explanation is any credit to the medical profession which tolerates it, or to the physician who prescribes it.—(*From The Journal A. M. A., Feb. 15, 1913.*)

AUBERGIER'S SYRUP OF LACTUCARIUM

That clause in the federal Food and Drugs Act which requires certain potent drugs to be declared on the label of the proprietary mixtures containing them has been responsible for clearing up many mysteries. Physicians have frequently wondered why they were unable to obtain from the syrup of lactucarium, U. S. P., the therapeutic results which they were able to obtain from a proprietary product known as Aubergier's Syrup of Lactucarium, sold by Fougere & Co. at an exorbitant price and put up in "patent-medicine" style. The milk-juice of lettuce once bore the reputation of being a soporific—a reputation that has been artificially maintained largely through the effects of the Aubergier preparation. With the advent of the Food and Drugs Act the secret of the soporific effect of the Aubergier product was explained—it contains morphin.¹

The practical difficulties of making a satisfactory syrup of lactucarium are not realized by most physicians. To such the following note, presented at a meeting of the Pennsylvania Pharmaceutical Association by Mr. Louis Emanuel, president of the Pennsylvania Pharmacy Board, will prove enlightening:

"Did you ever make a syrup of lactucarium direct from the crude drug? If you did, shake hands, and let me hail you as a brother, a brother pharmacist in fact worthy of the title. If you did not, I am sorry for you; you have missed something worth knowing.

"The *American Journal of Pharmacy* tells us that in 1851 'Aubergier cultivated lactuca and poppy on a large scale, in order to obtain lactucarium and opium. Please note the latter for further reference. In lactucarium he found lactucin, mannite, resin, cerin, asparmid, brown coloring-substance and oxalic acid.' In 1860 in the same publication, Proctor says: 'The attention of the medical practitioners has of late been

1. Technically this is incorrect as the company had inconspicuously stated in the "literature"—not on the label—that the preparation contained "extract of opium."

turned to the syrup of lactucarium, and the preparation sold usually by apothecaries in this city is that known as Aubergier's, a French preparation, made by dissolving 30 parts of alcoholic extract of lactucarium in 500 parts of boiling water, straining the liquor and adding 15,000 parts of boiling simple syrup, which is kept boiling, and albuminous water added from time to time until it is clarified.' In '66, '77, '78, '82 and '84 various writers produced elaborate dissertations on the supposed improved methods of making this syrup, but not one has had the temerity of inquiring into the therapeutic value of this preparation, or to examine the French preparation to ascertain whence comes its vaunted superiority.

"The French, it is said, are an impressionable people, but they appear to have a limit; they do not take any chances on *plain* syrup of lactucarium. Theirs contains the added product, extract of opium. This implies a lack of faith in soporific properties of lactucarium, and displays a recklessness in regard to cost and labor.

"The National Dispensatory, fifth edition, says:

"The utility of retaining lactucarium as an official medicine is very doubtful. It may possibly be desirable as a hypnotic for very impressionable persons, with whom faith in a remedy supplies its want of intrinsic efficiency."

"The official *modus operandi* for making this syrup looks laborious, but the innocent-looking task of reducing the drug to a coarse powder is a revelation to the uninitiated.

"It was a hot day in July, and it took my 175-pound clerk and me all that day to reduce 50 gm. of lactucarium to a satisfactory condition. The stuff looked like old pieces of discarded rubber shoes, and it really appeared to act like rubber. After perspiring all day with the Pharmacopeia and iron mortar, imagine our disgust, if you can, on reading in the National Dispensatory the following:

"This alcoholic preparation of lactucarium is quite as valueless and more objectionable than the syrup of the same drug.

"Moral: Why pay \$6.50 a pound for material that has no medicinal value, and is so hard to manipulate as lactucarium when decrepit rubber shoes are so cheap? You can have just as much fun on a hot summer day in reducing the latter to a coarse powder with clean sand in an iron mortar as you can with the more expensive material."

One of the advantages claimed for ready-made prescriptions over the made-to-order variety, or even over pharmacopoeial preparations, is that they are more elegant in appearance and less offensive to the nostrils and palate. This is the common experience of physicians who, having prescribed some ready-made mixture, wish to change the dose of one of its constituents and write a prescription or ask their pharmacists to prepare a similar preparation. The inability of the pharmacist to prepare a preparation even approaching the original in appearance, color or taste usually leads to increased confidence in the skill of the manufacturer of the proprietary and a correspondingly decreased belief in the pharmacist's professional

attainments. But these conclusions, although natural, are based on false premises. As the proprietary did not have the composition declared on the label, a mixture based on the formula differed more or less widely from the proprietary it was expected to resemble.—(*From The Journal A. M. A., Nov. 9, 1912.*)

A Protest and a Reply

Three months after publishing the foregoing we received a nine-page communication from Comar & Co. of Paris, the promoters of Aubergier's Syrup of Lactucarium, in which they took issue with some of the statements in our article. The company claimed that a possible reason for the difficulty experienced by Mr. Louis Emmanuel in trying to make the Syrup of Lactucarium from the crude drug is that he did not use the same variety of Lactucarium that it employs. Furthermore, it said that the presence of morphin in the product was acknowledged before the passage of the Food and Drugs Act. On more careful investigation, we find that this is true—that the presence of "a certain proportion of extract of opium" in the preparation was mentioned even before the federal Food and Drugs Act compelled the morphin content to be published on the label. Technically, then, THE JOURNAL was incorrect in making the implication that the medical profession was not apprised of the fact that Aubergier's Syrup of Lactucarium contained morphin; practically it was right. The information that Comar & Co. gave to physicians was buried in its advertising "literature" so that it is fair to assume that not one physician in ten thousand knew—previous to the Food and Drugs Act—that Aubergier's Syrup of Lactucarium contained morphin.—(*From The Journal A. M. A., Nov. 9, 1912.*)

LIQUID SULPHUR—SULPHUME

Many medicinal fakes apparently lead a charmed life. They may be exposed, ridiculed and seemingly annihilated, but in due time they are bound to renew their existence. As a type of such fakes we may take any of the various aliases under which the venerable Vleminckx' solution, after falling into disuse, has been again and again revived and rechristened. Vleminckx' solution was introduced years ago as an external application for skin diseases, and in recent years has been exploited in slightly varying compounds and under various names: sulphume, sulphurine, golden lotion, yellow lotion, liquid sulphur and soluble sulphur. This solution is essentially an aqueous solution of calcium polysulphid and thio-sulphid, such as is obtained when a mixture of lime and sulphur is boiled in water. A solution of this kind is described in the National Formulary under the title of "Liquor Calcis

Sulphuratae." According to the National Formulary, 5 ounces of slaked lime and 8 ounces of sulphur are made to yield 32 ounces of the solution, the material costing about 8 cents.

We had hoped that the "liquid sulphur" fake was at last dead, but this hope has been dispelled by recent inquiries for "the formula of sulphume," and for information in regard to "soluble sulphur," etc.

As the number of inquiries indicated a rather general interest in Sulphume, the Association laboratory was requested to make an analysis of the preparation as exploited to-day. It reported as follows:

"A package of Sulphume recently purchased bears the following legend:

'Sulphume for the skin and blood. The contents of this bottle makes 10 strong sulphur baths. Dose—Internally: Four to six drops of Sulphume in one-half tumbler of water 3 times daily, one-half hour after meals. Price \$1.00. Sulphume Company, Boston, U. S. A.'

"Accompanying the bottle is a booklet entitled 'Sulphur and Its Benefits to Health,' in which Sulphume is lauded for its value in treating all sorts of skin diseases, catarrh, corns, bunions, diabetes, diphtheria, female weakness, fevers, hemorrhoids, rheumatism, prostatitis, rickets, etc.

"The preparation as received in the laboratory is an orange-colored clear liquid, which on the addition of acid yields a precipitate of sulphur, accompanied by evolution of hydrogen sulphid. The liquid is alkaline toward litmus. Qualitative tests showed the presence of polysulphid, thiosulphate and calcium, but the absence of sulphate or sulphite.

"Quantitative determination showed the presence of about 1 gm. sulphur, per 100 c.c. of Sulphume, in the form of thiosulphate, and about 4 gm., per 100 c.c., in the form of polysulphid, making a total of about 5 gm. sulphur per 100 c.c. of the preparation. The calcium content was found to be equal to 2.55 gm. calcium oxid (CaO) per 100 c.c. of Sulphume."

Such a solution of calcium sulphid would doubtless be valuable for removing hair from hide as the first stage of its conversion to leather. While a few physicians still believe sulphids to be alteratives and general antiseptics and to possess some special value in the treatment of skin eruptions and recurring boils and even in acute and general sepsis, this foul-smelling remedy is now pretty generally ignored. While we are afraid its disgusting odor will continue to be a strong "talking point" for the stuff, let us hope that in due course of time the public will learn the fallacy of the old idea that anything that is nasty in taste or odor must be "powerfully good medicine." (*From The Journal A. M. A., Dec. 2, 1911.*)

TARTARLITHINE

Tartarlithine was examined by two chemists whose reports indicate that it is an effervescing preparation composed approximately of 20 per cent. of carbonate of lithium and about 80 per cent. of tartaric acid. Thus it is simply another of the hundreds of lithia preparations on the market offered for the cure of rheumatism. This in spite of the fact that scientific investigation and clinical experience have demonstrated that lithia is of very little use in the treatment of that disease. While the advertisement carries the idea that tartarlithine is a product of the Tartarlithine Company, and that McKesson and Robbins are simply selling agents, we are informed that the business is owned by McKesson and Robbins, who under this style manufacture a remedy for rheumatism.—(*Abstracted from The Journal A. M. A., April 23, 1907.*)

TOXICITY OF THE ARYLARSONATES

Soamin

A correspondent in the *British Medical Journal* (March 5, 1910, p. 599) calls attention to the dangers of the arylarsonates, "Orsudan" and "Soamin." The latter is probably better known to American readers under the earlier name "Atoxyl," Atoxyl and Soamin differing only in the number of molecules of water of crystallization. The correspondent states that the success which attended the use of these preparations in a series of twelve cases of syphilis induced him to continue it until an untoward occurrence compelled him to abandon it and to regret that he had ever advocated it. The untoward occurrence was blindness from double optic atrophy after ten injections of Orsudan. He says further:

"A second case has recently come under my notice in which a syphilitic patient also became blind after a course of about fifteen injections of 5 grains of Soamin (Burroughs, Wellcome & Co.). A third case is that of an elderly patient, with marked arterial degeneration, who was put on a course of injection of Soamin (Burroughs, Wellcome & Co.) for sciatica, but who after the introduction of about 60 grains also met with a similar fate. I am also cognizant of a fourth case, in which a patient suffering from lymphadenoma was treated with Soamin (Burroughs, Wellcome & Co.), and became totally blind.

"It is inexpedient to enter more fully into the history of these cases, and I should not have written this communication had not I recently received from Messrs. Burroughs, Wellcome & Co. a pamphlet commending their preparations, Soamin and Orsudan, and reproducing among others the cases I originally described. In this pamphlet a casual mention is made of the fact that signs of intolerance had been met with after the use of Soamin, such as 'visual disturbances, nausea, vomiting, gastric pains, dermatitis, nervousness, and insomnia,' and that

'the appearance of any of the above symptoms should be a signal for withholding the drug.' This is the only warning note in this pamphlet, though the manufacturers, through one of their representatives, had been informed by me of one case of total and irremediable blindness which had occurred after the use of Orsudan, and knew that I had abandoned the treatment on that account.

"Further, in the *British Medical Journal*, Jan. 22, 1910, Drs. Lundie and Blaikie describe a case of total blindness following on a course of Soamin and the possibility of causing optic atrophy by the use of that substance is alluded to. In the *Lancet*, ii, 1909, p. 1196, Dr. Bagshawe writes:

"The arsanilates, and especially Atoxyl, are not without their dangers; there are many recorded cases of blindness following the use of Atoxyl . . . It seems that loss of vision is less frequent, if it occurs at all, after the use of Soamin, which has of course a chemical formula identical with Atoxyl."

"There was, therefore, in the medical journals some indication that these drugs were not quite so innocent as they had been depicted. In the strict sense of the word, I suppose that total and incurable blindness may be termed a 'visual disturbance,' and my only object in writing is to point out to your readers the possible gravity of that 'visual disturbance' and to put them on their guard against such a disastrous occurrence."

The history of the commercial exploitation of "Atoxyl" and "Soamin" cannot be viewed by the physician with any satisfaction; yet it is unfortunately being repeated almost daily. A writer¹ in *The Journal*, Aug. 14, 1909, p. 497, selected this history as an example of the unsatisfactory conditions prevailing in the introduction of new drugs. To quote from this article:

"That physicians have been content and have received but half-truths concerning important matters is too well known to need much discussion. One illustration of recent date may, however, be given. Reference has already been made to a class of organic arsenic compounds which are attracting much attention. As they seem destined to attract still more interest in the future, and as many new compounds of the same class are being investigated, it was especially desirable that the first information given concerning them should be correct and complete. Yet the very first one, under the name Atoxyl, was brought to the attention of the physician with an incorrect statement even as to its composition. Professor Puckner, secretary of the Council on Pharmacy and Chemistry, seems to have been the first to discover the discrepancies between the manufacturer's statement and the truth. His results were soon confirmed by Ehrlich."

"New names for old drugs are often introduced in a manner to lead the physician to suppose that a new drug is being introduced. For example, I recently received a circular on 'Soamin' from a leading English firm. In this it is stated

1. Hunt, Reid: "What the Individual Physician Can Do to Improve the Materia Medica."

that 'the arylarsonate, "Soamin," was first introduced at the end of 1907,' and there is nothing in the circular to indicate that the same substance had been introduced by another firm several years previously under the name 'Atoxyl,' or that the compound itself had been made in 1863 by Béchamp. A little further on in this circular I read: "The toxic symptoms noticed by continental physicians when using other arylarsonates have not been observed with Soamin." As a matter of fact, most of the toxic symptoms noticed by continental writers were due to the same substance but under a different name."

There are certain points of resemblance between this history and that of the blindness from wood alcohol which shocked the public a few years ago. Certain dealers in wood alcohol represented that their product was harmless on account of its purity and a number of manufacturers were persuaded to use it, with most disastrous consequences not only to many innocent parties who lost their lives or sight but to themselves. The medical profession is now in somewhat the position of these manufacturers: dealers in all sorts of new drugs are representing that their purified products are harmless and the consequences are too often similar to those described above.

The physician is learning (reluctantly and regretfully, for he likes to feel that the manufacturers who express so much solicitude for his success in practice are dealing with him perfectly frankly) that the only safe way is to be profoundly skeptical of the statements of those who have something to sell; unfortunately this skepticism is necessary in regard to the products of the "great manufacturing houses" and some of the German professors as well as in regard to many of the humbler proprietaries.

It is probably a utopian dream but we still hope that a time will come when the contributors to the materia medica will come from well endowed medical schools and hospitals.—(*From The Journal A. M. A., April 16, 1910.*)

Arsacetin

Dr. O. H. Benker, St. Louis, writes: "The article on Soamin in THE JOURNAL, April 16, 1910, p. 1323, brings to my attention sodium p-acetylaminophenyl arsonate (Arsacetin) manufactured by Farbwerke vorm. Meister Lucius & Bruening, Hoechst, a.M., Germany. The literature from the manufacturer cites such authors as Neisser using it for subcutaneous applications in 9 grain doses, up to 20 injections. Kindly state whether this drug has produced any blindness or whether it is free from such dangers."

As the use of Atoxyl showed that it was liable to produce blindness, an attempt was made to secure a less poisonous product by introducing other radicles in place of hydrogen in the amino group. Arsacetin was one of these which appeared likely to be less liable to produce unfavorable results than Atoxyl. It differs from Atoxyl by the introduction of the acetyl radicle into the amino group of atoxyl, in other words,

it is acetyl-atoxyl. Experiments on animals showed it to be less poisonous than Atoxyl, thus the experiments of Blumenthal, (*Med. Klin.*, Nov. 1, 1908, p. 1687) show that rabbits which would succumb to a dose of 0.4 to 0.5 gm. of Atoxyl, bore doses of 0.6 to 0.8 gm. of acetyl-atoxyl (Arsacetin). It is to be noted that these doses show relatively less toxicity for Arsacetin but the difference does not seem to be very great. Arsacetin has now been used in a considerable number of cases and it appears that it has given rise to blindness in such a number of cases that it does not seem likely that it will fulfil the expectations of its originator by proving much less toxic than Atoxyl. Reute (*München. med. Wchnschr.*, April 6, 1909, p. 718) reports a case of atrophy of the optic nerve after the use of 3.6 gm. of Arsacetin.

J. Iversen (*München. med. Wchnschr.*, Aug. 31, 1909, p. 1785) used Arsacetin in 148 cases of relapsing fever, in one of which permanent blindness due to toxic retro-bulbar neuritis occurred. The patient received 0.7 gm. and after seven days 0.5 gm. of Arsacetin. Paderstein (*Berl. klin. Wchnschr.*, May 31, 1909, p. 1023) reports the observation of H. Lehmann, who administered Atoxyl to a patient to the extent of 3.4 gm. without benefit. After some months six injections of Arsacetin, amounting in all to 1.5 gm. were given, and soon after this complete blindness suddenly occurred. F. Hammes (*Deutsch. med. Wchnschr.*, Feb. 10, 1910, p. 267) reports a case in which he gave in eight doses 0.8 gm. of Arsacetin, which was followed by complete blindness and finally by death; the death, however, was probably not due entirely to the Arsacetin. He refers also to the report of Eckard (*Archiv f. Schiffsun d Tropenhygiene*, xiii, 16), who saw 3 cases of blindness among 134 cases of sleeping sickness treated with Arsacetin.

There are therefore in the literature reports of 7 cases in which blindness was undoubtedly due to this remedy. It is interesting to note that the experiments of Blumenthal with various derivatives of Atoxyl in which substitutions were made in the amino group showed no constant reduction of toxicity. Blumenthal suggests that a change in the arsenic group may cause an enormous increase in the toxicity. A para-aminophenyl arsenous oxid obtained by the reduction of atoxyl produced death in a rabbit weighing 2,800 gm. in the small dose of 0.02 gm. It is quite possible that the occasional instances of severe poisoning by Atoxyl and Arsacetin are due to reduction in the system which the physician can neither foresee nor control.

G. Meszcersky (*Vrach. Gaz.*, 1909, No. 27) reports unfavorable results in the treatment of syphilis by Arsacetin and remarks on the toxic action of the kidneys. In view of the foregoing it is evident that the greatest caution should be exercised in using a remedy capable of producing such serious side results. In this connection the conclusions of Hammes

are worth quoting: "Finally I am inclined to believe that in Arsacetin we have made a step forward in a path that promises marked success, but for general use this method is not yet applicable. As far as the application of this new preparation of arsenic in internal medicine, it is for the present not suited to displace the forms of arsenic previously used and to influence our previous treatment. The apparent benefits occasionally obtained in a small series of observations are abundantly counterbalanced by the damage which under some circumstances will quite overcome all of the satisfaction received from success obtained in a probably unexpected way. Especially for physicians in practice to whom other considerations are of importance in addition to the general ethical viewpoint of our science, an attitude of marked conservatism toward the remedies of this group is decidedly to be recommended."

In the foregoing no criticism is intended on the method of introduction of Arsacetin. The remedy has been put before the profession with very conservative statements and with an evident desire to supply a less dangerous preparation than atoxyl.—(*From The Journal A. M. A., May 7, 1910.*)

TUBERCULOIDS

The following card is sent out to the public by the Columbus Pharmacal Company, Columbus, Ohio, and a copy was sent to THE JOURNAL office by Dr. N. S. Davis:

PHTHISIS PULMONALIS CURABLE

By the Germicidal, Antiseptic (non-irritating), Alterative, Reconstructive and Restorative Properties of TUBERCULOIDS TREATMENT for TUBERCULOSIS. The medicinal factor being TUBERCULOIDS TABLETS, a chemical production proven efficacious by bacteriological tests, substantiated by practical use by physicians under all kinds of climatic and systemic conditions. Full size package (\$1.50 size, 200 tablets) furnished free to accredited practicing physicians on return of the attached card. Ample information furnished by personal letter for intelligent administration. Originated and manufactured only by COLUMBUS PHARMACAL COMPANY, COLUMBUS, OHIO. Serial No. 3219. Guaranteed under the Food and Drugs Act, June 30, 1906.

Some of the literature and a sample of the preparation were submitted to the chemical laboratory of the Association and the chemists were asked for an opinion and a report. The chemists declared that the statements made were typical of those made for the average "patent medicine." While pretending to give exact information regarding the composition of the remedy, the literature contains only mystifying phrases. The formulas given are criticised, and it is stated that they are evidently intended to mislead. Apparently, the tablets contain bismuth, possibly a nitrate of bismuth, a compound of guaiacol and a salt of cinnamic acid. There is no class of

patients whom the nostrum maker can influence more easily than consumptives; they are always hopeful and ever ready to praise any remedy they happen to use. This is undoubtedly the reason why the "consumption cure" promoters succeed in getting so many testimonials. Attention is directed to the fact that the statement "guaranteed under the Food and Drugs Act" does not carry with it any guarantee of the purity of the preparation or of its efficacy in the class of cases for the cure of which it is advertised.—(*Abstracted from The Journal A. M. A., Feb. 29, 1908.*)

TYREE'S ANTISEPTIC POWDER*

Now Advertised Direct to the Public as the "Best Preventative Known"

When the history of the "patent medicine" business comes to be written impartially and fairly, it will be realized that we, the medical profession, have been in no small degree

Virgin Oil of Pine, was com
in sealed half-ounce vials in wooden car-
tons bearing the label of
The Tyree Chemical Co., Cincinnati

DON'T USE TABLETS

Use
Tyree's
Antiseptic
Powder in
stead of bi-
chloride tablets,
carbolic acid, per-
oxide of hydrogen,
etc. A 25c box makes
two gallons, standard
solution. All druggists.
Booklet & sample free.

J. S. Tyree, Chemist, Washington, D. C.

SANTAL
CAPSULES

CATARRH
OF THE
BLADDER

Advertisement from a newspaper—Tyree's Powder as a "Patent Medicine" of the "Preventive" Type.

responsible for its growth. Not a few widely advertised nostrums owe their commercial success solely to the ill considered use accorded them by physicians, to whom they were first exploited. As a well-known and brilliant advertising man once said:

* See also Index.

"The patent medicine of the future is one that will be advertised only to doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature, sometimes gotten out in the shape of a medical journal, and through samples to doctors . . . The medical papers will reap the harvest and the physician himself, always so loud in the denunciation of 'patent medicines,' will be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day."

Of the conditions here described probably no better example can be found than Tyree's Antiseptic Powder. For years this preparation was advertised to the medical profession under claims that were fraudulent as to both composition and therapeutic effect. Analyses published in *THE JOURNAL*¹ proved that the formula given out by Tyree was absolutely false and that the preparation was, essentially, nothing but a simple mixture of sulphate of zinc and boric acid.

"Tyree's Antiseptic Powder"

Tyree's Antiseptic Powder, is, in its own proper form, both safe and effective. It is not a dangerous or poisonous agent. It never kills or damages healthy tissue; is neither an escharotic nor a coagulant; but it is a reliable antiseptic, inhibiting the pernicious activity of pathogenic germs, preventing infection, and promoting the healthful condition of the most delicate tissues. It is an ideal antiseptic for the physician, the surgeon, and the patient, more especially in the treatment of diseased conditions of the genito-urinary organs, both male and female, whether of a catarrhal or infected nature. Use from two to three teaspoonfuls in one quart of water three or four times a day.

Boric Acid.....	75.57 Per Cent.
Zinc Sulphate (dry).....	17.92 "
Antiseptics.....	6.35 "
(Salicylic Acid, Carbolic Acid, Menthol, Thymol and Eucalyptol.)	

J. S. TYREE, Chemist

Washington, D. C.

Advertisement from Medical Journal—Tyree's Powder as a Highly Respectable "Ethical Proprietary."

From the first it would seem, that the manufacturers of this mixture had for their objective point that period when, thanks to the use of the nostrum by physicians, it would be widely purchased by the public. Lavish advertising was done in medical journals and Tyree's Antiseptic Powder gained

1. Oct. 20, 1906, and May 18, 1907

admission to the pages of even those journals which required the publication of a "formula"—for a formula was forthcoming. THE JOURNAL itself, until seven years ago, carried the advertisements with a "formula" until chemical examination proved the falsity of the formula, and of the therapeutic claims made for the product. The medical profession in its turn prescribed the nostrum and the "original package" scheme did the rest.

Now, it seems, Tyree considers his preparation so well known that he can be independent either of the assistance of the physician or of his good-will. For Tyree's powder now goes to the public direct and newspaper readers find it advertised as:

- "Ideal for douche."
- "Unequalled as a douche."
- "Best preventative known."
- "Unequalled as a preventative."
- "Has no equal as a preventative."

And the following, whose very truth must bring the blush of shame to all physicians who have the interest of scientific medicine at heart:

- "Prescribed by physicians all over the world for twenty-one years."
- "Ask your doctor or send for booklet."
- "Used by doctors for the last twenty-one years."
- "One of the highest tributes paid Tyree's Antiseptic Powder is the fact that the most successful physicians have been using it for the last twenty-one years."

Not that Tyree has entirely forsaken the medical journals, although he seems to be dropping them one by one. At the beginning of this year at least fifteen medical journals were carrying the Tyree advertisement; by March the number had fallen to seven, while in June the only journals carrying it were:

Medical Record
American Journal of Obstetrics

Chicago Medical Recorder
Pacific Medical Journal

Those who answer the newspaper advertisements receive a free sample of the powder and several leaflets and circulars giving the various uses (?) of the hostrum. Incidentally these leaflets advertise, in addition, Tyree's "Elixir Buchu and Hyoscyamus Comp.," which is recommended, in various combinations, for such conditions as acute nephritis, epilepsy, neurasthenia, gonorrhea and delirium tremens.

Bearing in mind the claim that is made in the newspaper advertisements that Tyree's Antiseptic Powder is the "best preventative" known, it is interesting to see what Tyree has to say to those druggists whom he offers to supply with circulars for free distribution:

"As these circulars deal with the care of rubber goods, for both medicinal and toilet purposes, they are of great value to the customer and will be retained for further reference. They are boosters for your rubber goods sales, too."

That a nostrum of this sort should go to the public is not surprising, but that it should have reached the public through the instrumentality of the medical profession is a serious reflection on the judgment of physicians. But the incident has a bright side. That the exploiters of this nostrum no longer find it profitable to use medical journals as a means of getting their stuff to the public but must needs use the more expensive newspaper advertising, is cause for optimism. It means that physicians are no longer prescribing, indiscriminately, proprietary products and that they are refusing to be, what they have been in the past, the unpaid distributing agents for nostrum venders.—(*From The Journal A. M. A., Aug. 24, 1912.*)

VAPO-CRESOLENE

Vapo-Cresolene has been examined in the American Medical Association's laboratory and the chemists' report follows:

According to the statements on the trade package, Vapo-Cresolene "is a product of coal-tar possessing far greater power than carbolic acid in destroying germs of disease." It is recommended as a remedy for a number of diseases, including croup, catarrh and diphtheria. According to the manufacturers, it should be used only in "the Cresolene vaporizer," which makes it "unequaled for the disinfection of sick rooms" and the "safest and simplest method of destroying infection and purifying the air." From the examination we conclude that Vapo-Cresolene is essentially cresol and corresponds in every respect to cresol U. S. P. (Physician's Manual, page 36).

This report indicates that Vapo-Cresolene is a member of that class of proprietaries in which an ordinary product is endowed, by the manufacturer, with extraordinary virtues. The type is so common and has been referred to so frequently that but for the dangers attendant on the inhalation of any of the phenols, this particular product need not have been mentioned.—(*From The Journal A. M. A., April 4, 1908.*)

VASOGEN AND IODOVASOGEN

Another Case in Which Independent Analyses and Manufacturers' Labels Disagree

Vasogen, a product of Pearson & Company, Hamburg, Germany, has been put on the market under the various designations, "oxygenated vaseline," "water-soluble hydrocarbon" and "oxygenated hydrocarbon." The manufacturers, and also their American agents, Lehn & Fink, claim that by a special process the apparent impossibility of saponifying petrolatum has been overcome with Vasogen as the result. Disinterested

chemists who have analyzed Vasogen find that the product consists essentially of an ammonium soap and petrolatum—practically an ammonia liniment mixed with petrolatum.

Just as petrolatum under its various trade names was at one time recommended as a universal ointment base, so vasogen is recommended promiscuously as a vehicle for remedies applied externally and even for internal medication—needless to say in many cases in which it is directly contra-indicated.

Iodovasogen, recommended for external application as a substitute for tincture of iodine, was examined by Zernik in 1905, who found that the iodine existed not as a free iodine, but chiefly as ammonium iodide. The therapeutic character of the preparation is thus entirely different from that to be inferred from the labels and elsewhere, since the counter-irritant effects of free iodine are of course absent in ammonium iodide. Pearson & Co. now claim that when Zernik's findings were published they immediately modified their statements on the label in accordance with the truth. This is denied by Dr. Lungwitz, the editor of the *Therapeutische Rundschau* (*Apotheker Zeitung*, 1908, p. 900), who vigorously criticizes the misrepresentation made by Pearson & Co. in regard to Iodovasogen. He calls attention to the fact that, while Zernik's results were published over three years ago, the labels which are in use to-day still bear the statement that Iodovasogen consists of Vasogen 90 parts and resublimed iodine 10 parts, and Vasogen 94 parts and resublimed iodine 6 parts, respectively.

As Iodovasogen and Vasogen in various combinations, are being advertised to the physicians in the United States, the above information from our German exchanges is worthy of consideration.—(*From The Journal A. M. A., Feb. 13, 1909.*)

ZYMOTOID

A Fraud of the Liquozone-Oxytonic-Septicide Type

Dr. Arnold's Zymotoid, a nostrum manufactured by Arnold's Zymotoid Company, Rockford, Ill., is claimed to be an "antiseptic, germicide and antiphlogistic" which "has absolutely no peer in medicine." According to the statements of the manufacturer, Zymotoid is "successfully employed not only as an external dressing on all wounded and diseased surfaces, but in all zymotic conditions wherein a reliable antiseptic and germicide is needed internally." And in telling physicians of the great value of Zymotoid the company says:

"We assured them that if they would simply place Zymotoid 'next' to any wounded surface—and nothing else—they would have no inflammation, no suppuration, no infection or blood poison. Its prompt use in all cases where such trouble arises gives immediate and certain relief."

This is a large contract to be undertaken by Zymotoid—or any other preparation—which, as will be shown, consists principally of boric acid and water. The company also appends to its announcement concerning Zymotoid a number of the usual testimonials and a lot of alleged “case reports.”

Zymotoid seems to be exploited principally by circulars addressed to physicians and by agents who attempt to sell it to physicians. They also try to work factories and other large employers of labor. In their circular to physicians they claim that “Zymotoid is strictly ethical.” And “we publish its composition.” The composition given is: “sulphur, niter, cinnamon and boric acid in gaseous solution.” It is also claimed to be “a chemical compound—not a mixture—which is wholly non-toxic and can be used as freely as desired internally absolutely without harm to the smallest child.” On the label of the Zymotoid package is the following:

“Zymotoid is a concentrated chemical compound consisting of the solids and gases of sulphur, potassium nitrate, cinnamon and carbon held in a solution of boric acid.”

A specimen of Zymotoid was examined by our chemists and their report follows. As will be seen, it is simply another fraud of the Liquozone-Oxytonic-Septicide type.

LABORATORY REPORT ON ZYMOTOID

Zymotoid is a pale yellow liquid having a strong odor like sulphur dioxid. No odor suggestive of cinnamon was observed even after the sulphur dioxid had been fixed by the addition of an alkali. Qualitative tests indicated the presence of boric acid, sulphuric acid, sulphur dioxid and traces each, of a nitrate, potassium and some unidentified organic matter. Alkaloids, cinnamic acid, glycerin and soaps were absent. From the results of the quantitative examination it is concluded that the composition of Zymotoid is essentially as follows:¹

Boric acid (H_3BO_3).....	0.637 gm.
Sulphur dioxid (SO_2).....	0.129 gm.
Sulphuric acid (H_2SO_4).....	0.048 gm.
Potassium nitrate	trace
Unidentified organic matter.....	trace
Water (by difference) to make.....	100 c.c.

The analysis shows that but for the presence of boric acid the composition of Zymotoid is similar to other fraudulent “microbe killers” which have been exploited in recent years and of which some have been declared misbranded by the federal government. For example, “Radam’s Microbe Killer”² was found by the federal chemists to be composed of water, containing small quantities of sulphur dioxid and sulphuric acid. “Liquozone,” another nostrum which was widely exploited a

1. Details of the analysis will appear in the annual reports of the Chemical Laboratory.

2. THE JOURNAL A. M. A., July 16, 1910, p. 235.

few years ago, is said to have a similar composition.³ According to an analysis made at the North Dakota Agricultural Experiment Station,⁴ "Oxytonic" has a similar composition. The nostrum "Septicide," was found by the federal chemists to be composed of water with small quantities of sulphur dioxid, sulphuric acid and a trace of a nitrate. (*From The Journal A. M. A., April 6, 1912.*)

VIBURNUM COMPOUND—AND OTHER NOSTRUMS

A number of drugs have some reputation for therapeutic value without there being any particular evidence to substantiate the claims. Viburnum, concerning which we recently received the following letter, is one of these drugs:

To the Editor:—Have you made an analysis of Viburnum Compound? Extravagant claims are being made for it and I cannot put my hand on any data. A patient has asked me concerning it and I wish to advise her honestly. I do not know but that there may be several "viburnum compounds." I rarely use any of these "put-up" preparations, and hence know but little about them.

A. J. HESSER, M.D., Pittsburgh, Pa.

No analysis of Hayden's Viburnum Compound, to which our correspondent refers, has been made in the Association laboratory. According to advertising circulars, the preparation contains American skullcap (*Scutellaria lateriflora*), cramp-bark (*Viburnum opulus*) and wild yam (*Dioscorea villosa*). Since these drugs contain no well-defined therapeutically active ingredients, an analysis of the preparation would necessarily be unsatisfactory.

A number of drugs have in some way obtained a reputation as being valuable in the treatment of diseases of women, without their therapeutic claims ever having been proved. It is said that some were used by the aborigines for such affections and we find a considerable number of them combined in various nostrums (sometimes with therapeutically active drugs) and exploited for the cure of female disorders, under most extravagant and usually absurd claims. Thus "Pierce's Favorite Prescription" is advertised as containing black cohosh, blue cohosh, goldenseal, lady's-slipper and false unicorn-root; "Dioiviburnia" (Dios Chemical Co.) as containing American skullcap, cramp-bark, wild yam, blue cohosh, black haw, star-grass, trailing arbutus and false unicorn-root; "Viburnumal" (Louisville Pharmacal Works) as containing American skullcap, cramp-bark, wild yam, star-grass and motherwort.

Most pharmaceutical houses, following the lead of nostrum-makers, put similar mixtures on the market; for example: "Elixir of Viburnum Compound" (Nelson, Baker & Co.) is

3. THE JOURNAL A. M. A., March 28, 1908, p. 1065.

4. THE JOURNAL A. M. A., Jan. 1, 1910, p. 63.

said to contain cramp-bark, American skullcap and wild yam; "Elixir of Hydrastis and Viburnum Compound" (Smith, Kline & French Co.), cramp-bark, goldenseal, Jamaica dogwood and pulsatilla; "Elixir of Hydrastis and Cramp Bark Compound" (Parke, Davis & Co.), cramp-bark, hydrastis, Jamaica dogwood and pulsatilla; "Fluid Extract of Cramp Bark Compound" (H. K. Mulford Co.), American skullcap, cramp-bark and wild yam; "Mother's Cordial" (Eli Lilly & Co.), cramp-bark, blue cohosh, false unicorn and squaw vine; "Uterine Sedative Elixir" (Eli Lilly & Co.), cramp-bark, goldenseal, Jamaica dogwood and pulsatilla; "Vibutero" (Fred. Stearns & Co.), cramp-bark, wild yam, black haw, squak vine, Jamaica dogwood, saw palmetto and pulsatilla. Practically all of these drugs (except goldenseal) are ignored in the standard works on pharmacology. Further, the results of careful examination by the Council on Pharmacy and Chemistry of the therapeutic claims made for most of them shows that these claims are not sustained by reliable clinical experience.

The fact is that the popularity of preparations of this kind is purely an artificially created one. A nostrum containing, let us say, extractives of some little-used or worthless drugs is put on the market and heavily advertised. Should it be advertised in a manner to make it sell, a host of imitations appear and the large pharmaceutical houses put out substitutes for it. The uncritical physician does the rest. He prescribes it indiscriminately in the class of cases for which it is advertised. Naturally, a certain proportion of the patients who take it recover, and the recoveries are credited to the nostrum. A vicious circle is thus established and the demand for the stuff increases. Its sale, and the sale of similar products, continues until the overwhelming experience of those who have prescribed it proves its uselessness. In the meantime the manufacturers have reaped a harvest at the expense both of the public and of the medical profession. And the manufacturers' excuse for putting such absurd "specialties" on the market is that physicians prescribe them!—(*From The Journal A. M. A.*, Aug. 31, 1912.)

PART IV

MISCELLANEOUS MATTER

ACETPHENETIDIN AND PHENACETIN—THEIR RELATIVE PURITY

Until six years ago the chemical product known as phenacetin was patented both as to process and to product. As the patent ran out at that time, anyone, of course, could manufacture it. It was placed in the Pharmacopeia under the name "acetphenetidin." It is on the market now under both names, "phenacetin" and "acetphenetidin." The price of the former is five times¹ that of the latter, hence it is rather important to know whether or not one is, in any way, better or purer than the other. The original patentees or manufacturers, the Farbenfabriken of Elberfeld Company, market the product under the name "phenacetin" and also under the official name "acetphenetidin," the former at about 33 cents an ounce and the latter at about 6 to 7 cents an ounce. Evidently these people believe that acetphenetidin is all right since their price-list says: "Our product is of the highest standard of purity," and in another place: "On account of the low price of acetphenetidinum, U. S. P., it is especially suitable for the manufacture of medicinal specialties, such as headache powders, etc." Remember that it is the manufacturers of phenacetin who say this.

The question arose whether or not phenacetin differs from acetphenetidin. If it does, then physicians should know it. An inquiry was addressed to Farbenfabriken of Elberfeld Company and also to Lehn & Fink, two firms which market the product in this country under both names, asking in what respect the two products differ. No answer was received from either firm. With the object of answering the question our chemists have investigated the preparations on the market, both those sold under the name "phenacetin" and those under the official title "acetphenetidin." The following is a summary of their report:²

THE CHEMISTS' REPORT

Physical Appearance.—All the specimens were found to be fine white crystalline powders, differing somewhat in appearance as follows: Four specimens—Acetphenetidin (Farben-

1. Phenacetin is listed at 33 cents an ounce, acetphenetidin at 98 cents a pound in quarter-pound lots.

2. Full details of analysis are published in Volume V of the annual report of the Chemical Laboratory.

fabriken), Phenacetin (Specimen 1³—Farbenfabriken), Phenacetin (Specimen 2³—Farbenfabriken) and Acetphenetidin (Squibb)—appeared very much alike, each being a very fine crystalline powder, differing only slightly as to fineness. Five other specimens—Phenacetin (Lehn & Fink), and Acetphenetidin, U. S. P. (Lehn & Fink), Acetphenetidin (Merck), and two specimens of Acetphenetidin (Powers-Weightman-Rosengarten), had the same general appearance, each consisting of a fine crystalline powder containing a considerable proportion of large rectangular plates. Three specimens—Acetphenetidin (Mallinckrodt) and two specimens of Acetphenetidin (Powers-Weightman-Rosengarten)—had the same general appearance being a moderately fine and homogeneous crystalline powder. When examined microscopically with a low-power lens the Mallinckrodt product appeared to consist principally of rectangular prisms and the Powers-Weightman-Rosengarten product to be made up largely of plates.

Identity.—All of the specimens when tested side by side responded to and complied with the identity tests of the United States, British, German, Swiss, Dutch, Swedish, Spanish, and Danish pharmacopeias. The reactions given by the several specimens were all the same, showing no difference in any case.

Melting-Points.—As a further proof of identity and similarity the melting-points of the different specimens were taken and found to be: Acetphenetidin (Farbenfabriken), 134.2 C.; Phenacetin (Specimen 1—Farbenfabriken) 133.7 C.; Phenacetin (Lehn & Fink), 134.7 C.; Acetphenetidin (Lehn & Fink) 134.9 C.; Acetphenetidin (Powers-Weightman-Rosengarten), (1) 134.3 C., (2) 133.6 C., (3) 134.7 C., (4) 134.7 C.; Acetphenetidin (Squibb) 134.2 C.; Acetphenetidin (Merck), 134.8 C., and Acetphenetidin (Mallinckrodt), 134.2 C. The melting-point is given as 135 C. in the British, French and Spanish pharmacopeias, and as 134 to 135 C. in the United States, German, Swiss, Danish, Swedish and Dutch pharmacopeias. Thus all comply with the standard given in our pharmacopeia and most foreign pharmacopeias with two exceptions and those respectively only 0.3 C. and 0.4 C. low.

Absence of Acetanilid.—The absence of acetanilid in all the specimens was indicated by the bromin test of the United States, British, German, Swiss, Dutch, Swedish and Danish pharmacopeias.

Absence of Carbonizable Matter.—The absence of carbonizable matter was shown in all specimens by the sulphuric acid test of the United States, British, German, French, Swiss, Dutch, Swedish and Spanish pharmacopeias.

3. "Specimen 1" is a specimen of the product regularly sold in this country. "Specimen 2" is a specimen of a product sold in England and whose resale in this country was prohibited by the manufacturers.

Water-Soluble Matter.—All specimens when tested for excess of water-soluble matter came well within the limit (0.50 per cent.) set by the French pharmacopeia, the greatest amount being 0.20 per cent.

Ash.—When heated, all the specimens were found to yield practically no ash, the residues from 1 gm. samples weighing in no case more than 0.0004 gm.

TABLE SHOWING RESULTS OF ANALYSES OF VARIOUS SPECIMENS OF ACETPHENETIDIN AND PHENACETIN *

Name	Physical Appearance	Melting-Point (Corr.) C.	Water-Soluble Matter in Per Cent.	Ash, Per Cent.	Paraphenetidin, U. S. P. Test †	Paraphenetidin, Swiss Test †
Acetphenetidin (Farbenfabriken).	Very fine homogeneous crystalline powder.	134.2	0.17	0.02	—	+
Phenacetin (Farbenfabriken) (1).	Very fine homogeneous crystalline powder.	134.5	0.10	0.01	—	+
Phenacetin (Farbenfabriken) (2).	Very fine homogeneous crystalline powder.	133.7	0.06	0.00	—	+
Phenacetin (Lehn & Fink).	Fine crystalline powder, not uniform.	134.7	0.11	0.02	—	+
Acetphenetidin (Lehn & Fink).	Fine crystalline powder, not uniform.	134.8	0.13	0.00	—	+
Acetphenetidin (P. W. R.) (1).	Homogeneous crystalline powder.	134.3	0.19	0.03	+	+
Acetphenetidin (P. W. R.) (2).	Homogeneous crystalline powder.	134.7	0.16	0.02	+	+
Acetphenetidin (P. W. R.) (3).	Homogeneous crystalline powder.	134.7	0.14	0.02	+	+
Acetphenetidin (P. W. R.) (4).	Fine crystalline powder.	133.6	0.20	0.01	—	—
Acetphenetidin (Squibb).	Fine crystalline powder.	134.3	0.19	0.00	—	+
Acetphenetidin (Merck).	Fine crystalline powder.	134.8	0.15	0.03	—	—
Acetphenetidin (Mallinckrodt)	Fine crystalline powder.	134.2	0.11	0.01	—	—

* In all cases identity was confirmed; acetanilid was absent; carbonizable matter was absent.

† In this column plus indicates presence; minus, absence.

Absence of Paraphenetidin.—When tested by the methods of the United States, British, German and French pharmacopeias, the absence of an impurity of paraphenetidin was shown in all specimens, with the exception of one specimen obtained from Powers-Weightman-Rosengarten Co., which gave a positive, though not strong, reaction and two other specimens of the same firm which reacted still more faintly. While this firm's product alone gave any reaction whatever

when the U. S. P. test for paraphenetidin was applied with the test of the Swiss pharmacopeia, all but Acetphenetidin (Mallinckrodt), Acetphenetidin (Merck) and one specimen of Powers-Weightman-Rosengarten Co. gave positive, though very faint reactions, indicating that the majority of specimens, including those of the original manufacturer, contain a minute trace of this impurity.

Our findings regarding the product of Powers-Weightman-Rosengarten Co. having been communicated to this firm, their correctness was acknowledged. At the same time the firm wrote: "All that we have on hand now gives negative tests for paraphenetidin, and we believe our present records are correct when we state that all lots which we are supplying now, and have been supplying for sometime past, answer all U. S. P. requirements."

This examination appears to demonstrate that the chemical substance, para-acetphenetidin, whether sold as acetphenetidin, U. S. P., or as phenacetin, is practically identical. The impurity of the product of some of the specimens coming from Powers-Weightman-Rosengarten Co. is too slight to be considered dangerous. Furthermore, a comparison of the "lot numbers" indicates that this firm has been improving its product steadily so that in the future its assurances of an unimpeachable product may be relied on. Inasmuch, therefore, as acetphenetidin complies with all the pharmacopeial requirements as to identity and purity, in just the same way as phenacetin, which sells for as high as five times the price of acetphenetidin, physicians need not hesitate in using the title of the U. S. P. "acetphenetidin" when prescribing this product.—(*From The Journal A. M. A., March 16, 1912.*)

Acetphenetidin and Phenacetin

A physician-pharmacist writes: "If a prescription calls for 'phenacetin,' should the pharmacist dispense 'phenacetin-Bayer'—that is, the phenacetin manufactured by the original patentee—or would he be justified in dispensing the official acetphenetidin, manufactured by any reliable chemical or pharmaceutical house?"

Unless the pharmacist happens to know that the physician in writing the prescription desired the Bayer brand, he would be justified in dispensing acetphenetidin, U. S. P. As a general thing, physicians use the word "phenacetin" without intending to prescribe any particular brand or make, simply because they are familiar with this word and are not familiar with the official term "acetphenetidin." They will doubtless continue to use the term "phenacetin" and we know of no sufficient reason for doing otherwise. During the life of the patent the word "phenacetin" became a familiar one, and the product became generally known by this term. But a

coined name for a patented article loses its proprietary character and becomes the common name of the article when the patent expires. In other words, when the patent expires, not only the product but also the name itself becomes common property. This principle has been recognized by the courts. Those who formerly controlled the product and the name "phenacetin" evidently recognized this principle, for they have taken no steps to prosecute a firm in this country which sells the product openly under the name "phenacetin." It might be added that the preparation is official in most foreign pharmacopeias under the name "phenacetin." In agreement also with this principle the Council on Pharmacy and Chemistry (*THE JOURNAL*, April 27, p. 1298) lists in New and Nonofficial Remedies such products as "lanolin," "phenacetin," "sulphonal" and "trional" as non-proprietary names applied to *Adeps lanæ hydrosus*, U. S. P., *Acetphenetidinum*, U. S. P., *Sulphonmethanum*, U. S. P., and *Sulphonethylmethanum*, U. S. P., respectively.

In view of these facts—and also bearing in mind the findings of the Association's Chemical Laboratory (*THE JOURNAL*, March 16, p. 801) that the preparations on the market under the title "acetphenetidin" are of equal quality with the preparations sold under the name "phenacetin"—the pharmacist should recognize that acetphenetidin is identical with phenacetin, is prescribed, provided, of course, that no special brand of phenacetin is ordered.

It is the physician's privilege, of course, to specify the goods of a particular manufacturer, but in view of the fact brought out above that all brands of this chemical have tested up to the U. S. P. standard, it is placing an unnecessary burden on the pharmacist to require him to have on hand many different brands of one substance. The physician should save this privilege for use when prescribing some product that differs materially in its various forms on the market, as for example in the case of certain fluidextracts.

Physicians will doubtless find that the above comments will interest their local pharmacists. It is of mutual value for physicians to talk these matters over with their pharmacists.—(*From The Journal A. M. A.*, Oct. 5, 1912).

DE BARTHE TREATMENT

A Rheumatism Cure Conducted under the Auspices of the Neal Institute

We have received a number of inquiries about a Chicago concern known as the "DeBarthe Treatment for Rheumatism." The so-called treatment is "administered" at the Chicago Hospital, which was purchased from reputable physicians

some time ago by the persons who, under the name of the Neal Institute, are exploiting a "three-day liquor cure."

Of the "treatment" employed by the Neal Institute in the "cure" of the liquor habit, we have nothing to say at present. We believe that physicians are not informed as to the details of this "cure," although physicians are offered a 20 per cent. commission on all patients sent to the institute! In passing, it may be said that B. E. Neal, the "founder" of the Neal Institute, is reported to have been sued by the Gatlin Institute, another concern in the "three-day liquor cure" business. The Gatlin Institute is said to have declared that Neal, who was in its employ for about six years, used the secrets learned when in its employ and that, too, in spite of the fact that Neal is alleged to have made an oral contract not to divulge what he learned as an employee and not to employ the methods that he learned in a similar business if ever he severed his connection with the Gatlin Institute.

The president of the Neal Institute is one James E. Bruce, also president of the "DeBarthe Treatment for Rheumatism." The DeBarthe treatment is advertised by methods common to quackery. For example, in a Chicago paper a few months ago, an advertisement appeared headed in large black letters:

"Chicago Physician has Positive Cure for Rheumatism. Dr. DeBarthe's Treatment a Universal Success."

Some of the claims made for the DeBarthe Treatment are:

"A cure is within the reach of all."

"We cure all forms of rheumatism that are curable."

"An absolute cure for rheumatism in all its various forms."

"An internal Turkish bath that cures rheumatism, liver, stomach and nervous diseases."

"All forms of rheumatism are amenable to its administration."

"There is no recurrence of the trouble."

"Consists of purely vegetable and perfectly harmless medicines taken internally." [Reminds one of Lydia Pinkham.]

On the stationery of the DeBarthe concern, in addition to the president's name, two other names appear—"John Alexander Ross, Physician in Charge," and "Dr. Jos. DeBarthe, Director Medical Dep't." What the DeBarthe treatment is, we do not know. A letter from a physician, regarding this concern, says, in part:

"The agent representing the DeBarthe Co. gives the Chicago Hospital, Chicago, Ill., as their address. They seek to sell their treatment, consisting of medicine of secret formula, at \$25 a treatment to physicians or institutions and require an initial payment of \$1,000 on account."

So far as we can learn, DeBarthe is not a physician. Certainly he is not licensed in Illinois. In fact, the secretary of the Illinois State Board of Health states that he has authorized the state's attorney in Cook County to prosecute DeBarthe

In this connection, the following sidelight on DeBarthe and his methods will be of interest. In November, 1910, THE JOURNAL received a letter from a Mr. L. of M., Ohio. Mr. L.'s story was briefly as follows: For twelve years his wife had been affected with rheumatism and was unable to walk more than a few steps. DeBarthe, who had been treating patients in X—, O., heard of the case and came over to Mr. L.'s house. He told L. that he could put Mrs. L. "on her feet in one year," but he required \$250 in advance before he would take the case. Mr. L. sent DeBarthe the \$250 and received some medicine, which, he claims, DeBarthe valued at \$50. Treatment was commenced October 18, 1910, at which time Mrs. L. was in her usual state of health. She died eleven days later—October 29, 1910. When Mr. L. saw that his wife was becoming seriously ill under the treatment, he both telegraphed and telephoned DeBarthe to come immediately. This DeBarthe refused to do and told L. over the telephone, that he was unduly alarmed, that his wife would not die and that he did not think it necessary to call in a local physician. After his wife's death, Mr. L. sent the death certificate to Chicago where it was signed by DeBarthe and returned to him.

Such briefly is the story told by Mr. L. Investigation proved that DeBarthe was not licensed to practice in Illinois or in Ohio. We have, therefore, the spectacle of a man living in Illinois, practicing in Ohio and signing death certificates although he has no legal right to practice in either state. In fact, so far as we know, DeBarthe has no legal right to practice in any state.

From what has been said, the medical profession will have little difficulty in assigning the DeBarthe Institute to its proper niche in the hall of fakes and humbugs.—(*From The Journal A. M. A., Dec. 16, 1911.*)

DEKOFA

A Caffein-Poor Coffee

To those who would indulge their cravings, but whose health will not permit such indulgence, alcohol-free beer, nicotin-free cigars and caffein-free coffee make an ever-alluring subject. Unfortunately these articles have in the past been free from their objectionable constituents in name only, or if true to claim were unsatisfactory substitutes for the real articles—for beer without alcohol, tobacco without nicotin and coffee without caffein is much like "Hamlet" with Hamlet left out. In the end, those whose health interdicts the use of these stimulants wisely become total abstainers rather than consumers of unsatisfying substitutes, which but perpetuate the craving.

Recently a "decaffeinated" coffee, advertised and sold in this country by Merck & Co., first as "Dekafa" and now as

"Dekofa," has attracted some attention, judging from the inquiries received regarding it. It is evident from these inquiries that physicians in view of past experiences no longer rely on the unconfirmed statements of manufacturers but require more convincing evidence than such statements before accepting the product for what it is sold. In view of the many inquiries regarding Dekofa the Association chemists investigated the product and report:

Dekofa is sold on the retail market in 1-pound packages labeled:

"Dekofa—a genuine coffee from which the stimulating drug caffeine has been largely removed. Particularly adapted for those to whom ordinary coffee is forbidden."

"Use precisely as ordinary coffee—no special directions for making are needed."

Besides the above the following statements, some addressed to the laity and others to the profession are found in the advertising matter:

"Does the doctor forbid you coffee? Then ask him about Dekofa or Merck's 'Caffeinless' coffee. Most probably he'll let you drink that—and lots of it too."

"Drink it at home and you won't have to drink it in Europe—and you may not have to go to Europe for your health, either."

"There is no need of you forbidding coffee to your patients troubled with 'heart' or 'nerve' or 'stomach' complaints, if you will direct them to use Dekofa, Merck's 'Caffeinless Coffee.'"

"The average caffeine content of ordinary coffee is 1.3 per cent. Dekofa contains approximately 0.13 to 0.15 per cent. of caffeine or about 10 per cent. only of the normal content."

From the standpoint of the chemist the claims made by the manufacturer bring up for discussion the following points: Dekofa is spoken of as "Merck's Caffeinless Coffee." This term would signify that the coffee is free from caffeine but as the firm makes a statement that the product contains 0.13 to 0.15 per cent. caffeine it is evident that here the manufacturers seek exemption from the truth under a sort of poetic license enjoyed in the past by "patent medicine" exploiters. The use of the phrase "caffeinless" can do but one thing—disguise the truth and hence should be dropped.

The firm asserts that "the average caffeine content of ordinary coffee is 1.3 per cent." According to published analyses the caffeine content of coffee varies from 0.64 per cent.¹ to 3.64 per cent.² This variation is due in part to natural causes and in part to the unsatisfactory methods of assay. Thus one investigator finds in coffee of different sources 0.64 to 1.53 per cent. caffeine,³ while three experimenters, working on the same specimen of coffee, reported, by the provisional method of the Official Agricultural Chemists, results ranging

1. Arch. Pharm., 1876, p. 294.

2. Allg. Kaffee Zeitung, Rotterdam, from Proc. Amer. Pharm. Assn., 1885, p. 144.

3. Arch. Pharm., 1876, p. 294.

from 0.28 per cent. to 0.89 per cent. caffein and by another method from 1.02 per cent. to 1.21 per cent. caffein.

These results make it evident that no reliable average caffein content for coffee can be given, particularly when the method of assay is not defined. We are not in a position, however, to deny the correctness of the average caffein content of coffee as given by Merck & Co., nor, therefore, the claim that the presence of 0.13 per cent. caffein is an indication that 90 per cent. has been extracted. Assuming for the present that 0.13 per cent. caffein does indicate the removal of 90 per cent., and in view of repeated inquiries it was decided to determine whether the actual caffein content of this product on the market agrees with the manufacturers claims.

To determine the caffein content (1) the modified provisional method of the Association of Agricultural Chemists (*loc. cit.*) and (2) a method proposed by Görter (*ibid.*) were used and the following results obtained:⁴

1. (a) 0.13 per cent.; (b) 0.17 per cent. or an average of 0.15 per cent. caffein.
2. (a) 0.21 per cent.; (b) 0.25 per cent. or an average of 0.23 per cent. caffein.

Although these results vary somewhat, due to the different methods of assay used, they show that the caffein content of the product agrees in general with the claims. In conclusion it may be said that in those cases in which physicians feel called on to interdict the use of coffee and in which the patient is not willing to give up the habit, this product—unsatisfying as it is—may be used with the knowledge that it is relatively free from caffein.—(*From The Journal A. M. A., July 1, 1911.*)

DIGIPOTEN—WHAT IS IT?

A correspondent, who wishes to sign himself "A Pharmacist Subscriber," writes:

"What is Digipoten? Has it been passed on by the Council on Pharmacy and Chemistry? An advertisement states:

"It contains several active glucosids of digitalis leaves, practically without a trace of inert matter.

"Further on the same advertisement states:

"Dissolved, it makes a beautiful, green fluid.

"The last statement reads much as if Digipoten was merely another name for a powdered extract of digitalis, but as the green coloring matter of digitalis is not medicinally potent, so far as I know, it does not agree with the first claim quoted.

"We standardize it (by tests on the frog) to an exact strength, so the doctor may regulate the dosage to a nicety, avoiding dangerous cumulation.

4. The details of analysis will appear in the annual report of the Association laboratory.

"How does the standardization by frogs help the doctor to 'regulate the dosage to a nicety?' And then, too, is it possible that the manufacturer of Digipoten—the Abbott Alkaloidal Company—really places any dependence on frogs when in years gone by it has preached that only clinical results were worth while? If the Abbott Alkaloidal Company standardizes this digitalis preparation has it possibly also undertaken to standardize its other heart drug, Cactin?

"Its chemistry being done, it does not irritate and distress the stomach as the fluid preparations so often do.

"'Its chemistry being done' is almost artistic, provided you read it sufficiently rapidly; but as for sense or meaning, I fail to find any. Besides, is it not a proved fact that its effect on the stomach is a property of the digitalis principles themselves?

"It is not 'cumulative.'

"Is this not a rank falsehood? The reason I ask these questions is that I fear that the advertisement contains a misprint and that the statement 'See that your druggist is stocked' probably should read 'See that your druggist is stuck.'"

Digipoten seems to be an ordinary extract of digitalis diluted with sugar of milk. It has not been accepted by the Council on Pharmacy and Chemistry. Evidently "A Pharmacist Subscriber" is not familiar with the fact that many statements occurring in the literature advertising proprietaries are not to be taken too seriously. Of course digitalis glucosids are not of a beautiful green color, but glucosids in pure form are rather expensive and difficult to prepare, while an extract is comparatively easy to make and inexpensive. In calling attention to this really harmless, beautiful, green color the manufacturers of Digipoten seem willing to make a virtue of necessity. While Digipoten is not claimed to be more active than digitalis, it sells at a little more than \$40 a pound wholesale, or one hundred times the price of digitalis leaf of equal activity. "Its chemistry being done," etc., is merely one of those statements which appear so frequently in advertisements of this sort, and to which no particular meaning is to be attached. At any rate, the facetious comments of our correspondent serve quite as well as any we can offer.—(*From The Journal A. M. A., Feb. 22, 1913.*)

ERGOT AND ITS PHYSIOLOGIC STANDARDIZATION

Reference was made editorially in THE JOURNAL, October 7, 1911, to a study of the question of the physiologic standardization of ergot by Edmunds and Hale, in which they review the various methods employed in the standardization of the drug and give the results of their own work with proprietary and pharmacopeial preparations of various manufacturers.

Their report is a highly interesting document and it is presented here in order that physicians may know how much reliance is to be placed in the preparations of manufacturers and what serious discrepancies exist between the claims made for permanency, strength, etc., of their special products and the facts as brought out by experiment. A summary of their conclusions as to the method of standardization is also given.

"From the standpoint of both practicing physician and patient an interesting part of this research relates to the activity of various ergot preparations as they are obtained on the open market. Similar work has been reported on by various writers from time to time, but even their results show some interesting discrepancies which seem to be dependent partially at least on the special method of assay employed. The examination of these specimens by us was not the prime object of the work, but only an incidental part, as it was mainly concerned with an examination of the different methods of assay in general use.

"Dixon, using the blood-pressure method, reported that among six samples of ergot he found two moderately active, two very feeble, and two worthless. Edmunds and Roth, by means of the cat's uterus, found that in a series of fluid extracts six were of nearly the same activity, one about half strength and one apparently inactive. Kehrler reports on about twenty-five ergot preparations which he assayed in the course of his investigations on the isolated uterus. Goodall, in his work already referred to, reports on the examination of a large number of ergot preparations. Among these he found that almost 60 per cent. showed themselves to be very poor when judged by the blood-pressure standard, but that only 34 per cent. failed to cause satisfactory contractions of the uterus. Wood and Hofer seem to have had the most discouraging experiences with fluid extracts, as they found among eleven preparations only two which came up to their standard of activity as determined by the effect on the blood-pressure.

"Our own results obtained in this research showed that the six fluid extracts which were obtained in the open market possessed considerable variation in activity, some being four times as strong as others, as is seen in the following table. Only one of the entire number approached in strength the fluid extracts made from the Spanish and Russian ergot.

"Relative activity of preparations of ergot examined. Results of July and December assays.

Spanish ergot.....	5*
Cornutol (H. K. Mulford Co.).....	5
Russian ergot.....	6
Nelson, Baker & Co., fluid extract.....	6
Ergone (Parke, Davis & Co.) Sample 2.....	8
Wyeth purified ergot.....	8

* The numbers represent the amounts of the various ergot preparations that were required to produce a given degree of cyanosis in a cock's comb. For example: While five parts of Spanish ergot produced the required degree of cyanosis, it took ten parts of Sharpe & Dohme's fluid extract and twenty parts of Parke, Davis & Co.'s fluid extract to produce the same effect.—Ed.

Parke, Davis & Co., sample 2, fluid extract.....	9
Sharpe & Dohme, fluid extract.....	10
Ray Chemical Co., fluid extract.....	11
Ergotole (Sharpe & Dohme).....	15
Parke, Davis & Co., sample 1, fluid extract.....	20
H. K. Mulford, fluid extract.....	20
Ergone (Parke, Davis & Co.), sample 1.....	?

"As it is so generally known that the fluid extracts of ergot deteriorate quite rapidly, the fact that some preparations on the market which are made according to the pharmacopeia may be found very weak need not be considered a reflection on the manufacturer, as it may be merely the result of aging or other causes. It would seem very desirable, however, on account of this deterioration with age that bottles of ergot should be stamped with the date of the manufacture.

"With preparations of ergot other than those made according to pharmacopeial directions, the condition is quite different. These are prepared according to some private formula and are represented as being superior to the official preparations, either on account of greater strength, permanence, or some other suggested superiority. With these it is therefore of importance to see whether they possess any advantage over the cheaper official preparations and whether they actually conform to the standard claimed.

PREPARATIONS EXAMINED

"Cornutol appears at the head of these non-pharmacopeial preparations, and our sample seemed to be equal in activity to the Spanish ergot fluid extract. This preparation is made by H. K. Mulford Co., Philadelphia, from 'selected Spanish ergot and contains what is active separated from inert matter,' and is said to be assayed so as to contain 0.15 gram cornutin in 100 c.c. The specimen we examined was a thick greenish-brown fluid with a very unpleasant odor which suggested putrefaction. The most interesting point in connection with our sample of cornutol was that while it was found to be equally active with a good fluid extract, it should have been much more potent as it is claimed to be two and a half times as strong, each minim according to the label being equal to $2\frac{1}{2}$ grains of ergot. We must conclude, therefore, that it, like the official preparations, had undergone deterioration.

"The 'ergot purified' made by Jolin Wyeth & Bro., Philadelphia, made up with 25 per cent. alcohol, was a clear Burgundy red, and possessed the characteristic ergot odor. It required a dose about 50 per cent. larger than a good fluid extract in order to produce equal effects, and yet according to the makers it is a 'concentrated purified solution of active constituents of ergot, physiologically tested and standardized.' The method of assaying is not stated, but if we can judge by the copy of tracing enclosed, the preparation is tested by the blood-pressure method. Here again, as with cornutol, the only explanation we have to offer as to the difference in strength between that indicated on the label and what we found on examination is that it must have deteriorated very considerably.

"Still more interesting is 'ergotole,' made by Sharpe & Dolme, Baltimore. One specimen was found to be about one-third as strong as our Spanish fluid extract, while according to the makers it should be two and one-half times stronger, as each cubic centimeter is said to be equal to 2.5 grams select Spanish ergot. Our first thought would be that this remarkable discrepancy could be explained as in the other cases by the effect of age on the preparation, but this is evidently a mistake, as the firm's literature positively states that ergotole is a 'permanent solution,' that 'it does not change with age,' and is 'therefore always reliable.' Confronted by these statements, we are entirely at a loss for an explanation and must leave the subject with the mere statement of facts. Further, this preparation is assayed by the cornutine of Keller which the makers have found to be a 'trustworthy guide as to the therapeutic strength of the drug.' The evidence in regard to this relation we discussed at another point. A statement which occurs in the literature of the firm is that ergotole contains all the active principles of ergot in an 'unchanged condition' and 'in their natural combination.' The question might be raised as to whether this is not rather a strong statement and one which would be hard to prove.

"'Ergone,' Parke, Davis & Co., appears in both our series of assays, as the results obtained with it in July were so unfavorable that we decided to examine it again in December. According to the manufacturers, it is of the same strength as the official fluid extract, is non-alcoholic, sterile, active, permanent, and physiologically tested and standardized. The December samples we examined compared very favorably with the fluid extract made by the same firm whether the comparison was made on the cock's comb or the uterus. It apparently was slightly stronger, but not over about 10 per cent. However, both were much weaker than the Spanish fluid extract, being not much more than half as active. If the fluid extract had deteriorated (as might be expected), it would look as if ergone must have deteriorated also, as they are both standardized. But how can ergone deteriorate, being a permanent solution? Either they were both weak to start on, or they have deteriorated. The latter view probably is correct if we may judge by the findings in the samples used in the July series of assays. This specimen when tested on the cock's comb produced no cyanosis whatever, even when it was given in 4 c.c. and 6 c.c. doses. An extract from our records on one cock will show very plainly its lack of activity.

"Cock: Weight, 1,285 grams. Aug. 26, 1910. Injected 1 c.c. Spanish fluid extract. Distinct cyanosis. Same intensity as 3 c.c. ergotole injected to-day. Aug. 29, 1910. Injected 6 c.c. ergone. No action. Aug. 31, 1910. Injected 1.5 c.c. Spanish fluid extract. Distinct cyanosis.

"This protocol shows the cock was reacting well to other preparations, so that the failure to react must have been due to the ergone. This same specimen of ergone when administered in 1 c.c. doses to a cat called forth uterine contractions which were not as strong as were being produced by 0.1 c.c.

doses of Spanish fluid extract. Clearly then the ergone was nearly inactive and must have deteriorated greatly.

"An interesting point in connection with the assay of ergone is the effect it produced on the blood-pressure. By reference to the tables [for which the *Bulletin* must be consulted.—Ed.] it will be seen that in both series it is very weak when measured by this standard. This is especially noticeable in the sample used in December, which was quite active when tested on the cock's comb and uterus, yet it raised the blood-pressure only 9 per cent., in comparison with the 38 per cent. increase produced by Parke, Davis & Co.'s fluid extract. This lack of activity on the blood-pressure is probably explained by a relatively small quantity of putrefactive amines, as ergone is said to be made under aseptic conditions.

"Chemical methods for the assay of ergot show little relation to biologic methods, and the latter should be used as a means of insuring those who require this drug a remedy both potent and of uniform strength.

"For this purpose, the method using the cock's comb is recommended on practical grounds rather than that using the uterus.

"Ergot preparations should be marked with the date of manufacture.

"The fluid extracts of ergot examined varied in strength greatly, some being only about one-fourth as strong as a preparation freshly made from Spanish ergot. Non-pharmacopeial preparations showed even greater discrepancies between the strengths claimed and those actually found.

"Until more reliable methods of manufacture are found makers of ergot preparations would be wise to exclude the phrase, 'ergot in permanent solution,' from their advertising literature. They may thus avoid misbranding."—(*From The Journal A. M. A., Oct. 14, 1911.*)

MEAT EXTRACTS AND MEAT JUICES *

Their Composition and Relative Values

The Bureau of Chemistry of the Department of Agriculture has recently given in Bulletin No. 114 much new and valuable data regarding the commercial meat products. The work contained in this bulletin is practically an elaboration or continuation of that published in *THE JOURNAL* of May 11, 1907, p. 1612. It was taken up to determine the condition and quality of meat preparations in general and from the results obtained to prepare tentative standards for the preparation and composition of such meat preparations. The results as well as the methods of analysis of many meat products are given, showing the composition and relative value of the various preparations. The comments of many investigators regarding the food value of such products is also a

* See Index for the Report of the Council on Pharmacy and Chemistry on "Meat and Beef Juices."

valuable contribution to the knowledge of meat extracts, and will help in deciding the real value of the preparations.

The preparations taken up are divided into three general classes: (1) Solid and Fluid Meat Extracts; (2) Meat Juices; (3) Miscellaneous Preparations. For each of these the tentative standards submitted by the Committee on Food Standards of the Association of Official Agricultural Chemists are given along with the tabulated results of the chemical analysis. The preparations examined showed, for the most part, that they conformed to the standards, and only those which are at variance in one or more particulars will be mentioned in this review.

SOLID MEAT EXTRACTS

For solid meat extracts the following are the requirements:

"Meat extract is the product obtained by extracting meat with boiling water and concentrating the liquid portion by evaporation after removal of fat, and contains not less than 75 per cent. total solids of which not over 27 per cent. is ash and not over 12 per cent. is sodium chlorid (calculated from the total chlorin present), not over 0.6 per cent. is fat and not less than 7 per cent. is nitrogen. The nitrogenous compounds contain not less than 40 per cent. of meat bases and not less than 10 per cent. of kreatin."

With the above as the standard, several of the solid meat extract preparations examined were not up to grade on one or more points, though in some cases it is true they were very slightly below the standard set. The following products were found wanting in some respects and the requirements which they failed to meet are given:

"REX" BRAND BEEF EXTRACT (Cudahy Packing Co., Omaha) contained 26.50 per cent. water instead of the standard 25 per cent.

EXTRACT OF BEEF PREMIER (Libby, McNeill & Libby, Chicago) contained 30.92 per cent. of ash instead of the standard 27 per cent.; 18.32 per cent. of sodium chlorid (standard, 12 per cent.); 6.02 of nitrogen (standard, 7 per cent.).

BEEF EXTRACT (Swift & Co., Chicago) contained 13.51 per cent. sodium chlorid (standard, 12 per cent.); 6.60 per cent. nitrogen (standard, 7 per cent.).

BEEF EXTRACT, COIN SPECIAL (G. H. Hammond Co., Hammond, Ind.) contains 13.25 per cent. of sodium chlorid (standard, 12 per cent.); and 6.86 per cent. nitrogen (standard, 7 per cent.).

With these few exceptions, the solid meat extracts were found to comply with the standards given.

FLUID MEAT EXTRACTS

For fluid meat extract the following standards have been suggested:

"Fluid meat extract is identical with meat extract except that it is concentrated to a lower degree and contains not

more than 75 per cent. and not less than 50 per cent. of total solids."

According to this standard all excepting one of the fluid meat extracts examined were found to be below grade in one respect, that of solids. The following are preparations examined and the percentage of solids found:

	Per cent.
CONCENTRATED FLUID BEEF EXTRACT (Armour & Co., Chicago)	42.25
MEAT JUICE (Valentine's Meat Juice Co., Richmond, Va.) ..	42.36
BEEF JUICE (John Wyeth & Bro., Philadelphia)	41.16
VIGORAL (Armour & Co., Chicago)	50.06
"REX" FLUID BEEF EXTRACT (Cudahy Packing Co., Omaha)	44.01
FLUID EXTRACT OF BEEF (Cibilis Co., New York)	35.37
FLUID BEEF JELLY (McSquera-Julia Food Co., Detroit) ..	31.03

Special notice is directed to the price of some of these preparations, which in spite of their large water content, are higher priced than some of the solid meat extracts.

MEAT JUICES

The following is given as the standard for preparations of meat juice:

"Meat juice . . . is the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble proteids. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 per cent. nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous bodies contain not less than 35 per cent. of coagulable proteids and not more than 40 per cent. of meat bases."

It is especially noticeable among the meat juices, so called, that none shows any appreciable amount of coagulable proteids. Valentine's Meat Juice and Wyeth's Beef Juice, besides being below the standard in total solids as fluid extracts, are misbranded when called meat or beef juices, as can readily be seen by comparing the results of the analyses and the standard.

Wyeth's Beef Juice is advertised as containing "all the albuminous principles of beef in an active and soluble form" and "in an unaltered form"—two statements that are on the face of them untrue and misleading. To say that all the albuminous principles of meat are present is to say that not only the juice of the meat but all the fiber is present, which evidently is not true. Then, again, to say that it is present in an unaltered form is far from the facts, for, as is stated on page 18 of the Bulletin: "It appears impracticable to prepare a true meat juice for market, as the temperature necessary for the preservation of food products in hermetically sealed packages coagulates the proteids and changes the na-

ture of the product." On page 55: "When prepared under the best possible conditions a commercial meat extract is, of necessity, in order that it may not spoil, deprived of the greater part of the coagulable proteids, which constitute the chief nutritious elements of the juice."

On examining the tables of analysis, it is seen that Wyeth's Beef Juice contains but 23 per cent. of its total proteids in a coagulable form, while the standard calls for 35 per cent., thus showing it to be no more valuable as a food product than any other so-called meat juice, the statements of the manufacturers to the contrary notwithstanding.

In the case of Valentine's Meat Juice we note a large discrepancy between the standard requirements and the results of the government analysis, for instead of the proteid matter containing 35 per cent. in the coagulable form, it contains but 1.6 per cent. These figures show, then, that Valentine's preparation contains practically no coagulable proteids, and since the quantity of these measures the food value of such preparations, the conclusion must be drawn that Valentine's Meat Juice has practically no value as a food and should certainly not be classed as a meat juice.

Bovinine, another widely advertised meat preparation, which, according to statements on "The Bovinine Co.'s" letter head, is "a concentrated beef juice" and "the only perfect food in the world," was analyzed and found below the standard set for meat juices, since it contains only 3.38 per cent. of coagulable proteids. Yet in spite of this discrepancy, the manufacturers of Bovinine persist in exploiting it as a food, stating it to be " . . . a concentrated easily assimilable, nitrogenous food," and in another place it is stated that Bovinine "is an ideal food." As it is deficient in coagulable proteids and thus below the requirements as a food, it is misbranded when called a food of any sort, for to quote again the Bulletin, page 55: " . . . meat extracts . . . must not be looked on as representing in any notable degree the food value of the beef or other meat from which they are derived"; and, again: "They are not, however, concentrated foods, having, on the contrary, but comparatively little nutritive value."

Taken individually or as a class, meat extracts are not to be considered as foods, and should, therefore, not be advertised as such, a conclusion which the government officials have come to and voiced in the conclusion of the Bulletin as follows:

VALUE AND LIMITATIONS

"It seems to be the consensus of opinion among scientific investigators who have studied this question that the food value of these meat extracts is rather limited, and although they are a source of energy to the body they must not be looked on as representing in any notable degree the food value

of the beef or other meat from which they are derived. When prepared under the best possible conditions a commercial meat extract is of necessity, in order that it may not spoil, deprived of the greater part of the coagulable proteids, which constitute the chief nutritious elements of the juice.”—(*From The Journal A. M. A., Jan. 23, 1908.*)

PHARMACEUTICAL MANUFACTURERS AND THE GREAT AMERICAN FRAUD

At various times we have given more or less complete accounts of the prosecutions the United States Government has brought against nostrum exploiters under the Food and Drugs Act. One of the more recent of these, while of comparatively little interest *per se*, is of importance to the medical profession, because of certain elements connected with it. The case is known technically as “Notice of Judgment No. 284” and deals with the “Alleged Misbranding of Danderine.” The gist of the case is as follows: Casks of Danderine—a widely advertised “hair tonic”—were shipped in carload lots from Michigan to West Virginia, where the product was bottled, labeled and put in condition to be retailed. Danderine contains a percentage of alcohol which, while given on the labels of the bottles in which it is sold, was not stated on the casks in which the preparation was shipped in bulk. The government sought to confiscate, under the Food and Drugs Act, sixty-five casks thus shipped because the quantity or proportion of alcohol in the casks was not stated. The Knowlton Danderine Company resisted the confiscation and the court upheld the company’s claim.

The point in this case which is—or should be—of interest to the medical profession is to be found in the “statement of facts” presented by the Knowlton Danderine Company in its own defense. Here it is said that: “Parke, Davis & Co., who are mentioned in the said libel as shippers . . . are under contract with the said Knowlton Danderine Company . . . to compound the said formula . . .’ Elsewhere it is stated: “Parke, Davis & Co. were . . . the manufacturing agents, under contract, of the owner, the Danderine Company . . .”

This evidently means that Parke, Davis & Co., who are generally supposed to manufacture only “ethical” preparations—proprietary or otherwise—and as such to desire the respect and good wishes of the medical profession, are in the business of furnishing the supplies for nostrum venders. What Danderine is, it is hardly necessary to specify. The widely distributed advertisements of this “hair tonic” nostrum with the slogan: “Danderine Grows Hair and We Can Prove It” are sufficiently well-known to all who read to make a lengthy disquisition on the product unnecessary.

It is interesting in this connection to note that according to newspaper dispatches the Danderine Company has absorbed the Sterling Remedy Company, which exploits "Cascarets." Three years ago a physician, who is also a pharmacist, wrote to the *Medical World* regarding the manufacture of Cascarets:

"I have positive evidence, which I will gladly submit, that P., D. & Co., make all of them [Cascarets], and that they have a contract with the Cascaret people not to make anything similar for any one else."

In the circular which comes in the Danderine packages two other "specialties" are advertised: "Neuralgine" for "sick, weak, tired nerves" and "Drake's Palmetto Compound" for "weak stomachs, sluggish livers, disordered kidneys" and various other derangements of the system. The question naturally arises, are these, too, shipped in casks from Parke, Davis & Co., and merely bottled and labelled in West Virginia?

Not that the Danderine case is the first one in which Parke, Davis & Co. have been exposed as manufacturers of nostrum supplies. "Vitaopathy" a method of "treatment" practised by the notorious New York Institute of Physicians and Surgeons in the person of "Prof." Adkin and apparently consisting of "absent treatment" and pills, was finally put out of business by a fraud-order from the post office department. The concern used to advertise:

"In Professor Adkin's laboratory, his chemists are daily engaged in extracting the life-and-health-giving principle from rare vegetables, fruits and plants."

"Prof." Adkin had no laboratory; his chemists, according to the government report, were Parke, Davis & Co., from whom he purchased the tablets which formed part of his stock-in-trade of quackery.

The Nutriola Company of Chicago was declared fraudulent by the postal authorities and a full account of the methods of this fake medical concern appeared in *THE JOURNAL*, April, 28, 1906. Nutriola was advertised as:

"The greatest Chemical-Medical Preparation ever prepared by the skill of man."

"Nutriola and Nature are the only invincible conquerors of diseases ever known."

The promoter of this scheme was one Edward F. Hanson, who was questioned by the government inspectors regarding the manufacture of the Nutriola nostrum. Quoting from the government report:

"Q. Please name the chemists who now manufacture the remedies of the Nutriola Company."

"A. Parke, Davis & Company, Detroit; E. L. Patch Manufacturing Company, Stoneham, Mass.; Seabury & Johnson, New York."

Not that the course pursued by Parke, Davis & Co. is by any means an exceptional one in the pharmaceutical world. It may be recalled that *THE JOURNAL* has previously referred to

the fact that Sharp & Dohme are reported to make or to have made the "Getwell Tablets" for the "patent medicine" concern which exploits the nostrum; and that Frederick Stearns & Co. make or did make the widely advertised "cures" Shac and Zymole Trokeys also has been mentioned. That Seabury & Johnson made preparations for a fake medicine concern was brought to light by Mr. Adams in the "Great American Fraud" series. And unquestionably there are many others. The attitude taken by such houses seems to be that they are willing to furnish anything in the pharmaceutical line that anyone is willing to pay for, whether it is for legitimate use of the physician or pharmacist or for furthering the business by which the ignorant or gullible sick are humbugged and defrauded.—(From *The Journal A. M. A.*, July 2, 1910.)

ODIN'S ALLEGED DISCOVERY OF A "CANCER GERM"

Our readers may remember that the most sensational matter appearing in the newspapers regarding Dr. Friedmann's tuberculosis "cure" was in the form of a syndicate letter by William Shepherd, a newspaper correspondent. The preceding week the newspapers had a similar sensational letter by the same writer concerning an alleged discovery of the cancer germ by a Dr. Odin of Paris. An article by Dr. L. K. Hirschberg of Baltimore regarding this also appeared in the *Technical World Magazine*, thus adding, as it were, a professional endorsement to the matter. On account of this publicity our readers may be interested in the following extract from a letter from Dr. Edwin Walker of Evansville, Ind.

" . . . One of my chief reasons for stopping in Paris was to investigate the alleged "cancer cure" of Dr. Gaston Odin, a report of which was published in newspapers throughout the United States.

"With a very intelligent interpreter, I went to his address, as given by the directory, 63 Rue Vaman. This is in a cheap quarter and the place proved to be a very modest apartment house. The janitor informed us that our doctor had just removed to Boulevard des Invalides, and there we found him in elegant apartments, newly furnished in the most expensive manner. The neighborhood was one of the best. Evidently prosperity was coming from some source.

"We were ushered in by a lady (who proved to be the doctor's wife) and were asked to wait until the doctor had finished his lunch; during this time we could inspect the gorgeous furniture (all new).

"Presently he entered, smoking a cigaret. He, was small, about 5 feet 5 inches, weighed about 120 pounds, and was a typical Frenchman, about 45 years old, I should think. He looked well fed and well wine. He was very pleasant and talkative. His story was about as follows:

"He had been working alone on the cancer problem for fifteen years and had exhausted all his means. He was connected with no hospital and had no aid from any one. He had discovered the germ of cancer in the blood and had also found a remedy in a serum which would absolutely cure all cases.

"I asked him his methods of finding the germ, but he said he was not prepared to demonstrate it to me as his laboratory was in disorder.

"I asked him if he had published anything, and he gave me a short article, merely stating that he had found these germs but giving nothing of his methods, nor any proof, experimental or otherwise, that the 'germs' were really those of cancer.

"I then asked him about his serum. This was prepared by a process which he kept secret; he injected it under the skin, not at the site of the cancer.

"I asked him then if he was prepared to sell or formulate the serum to others. To this he answered that the French government would not allow him to sell a serum unless experts would pass on its value as well as its harmlessness. With this he broke out into a denunciation of governments in general and the medical profession in particular, because they interfered with his freedom in the matter. He was very anxious to know if he could do better in America. He was very willing to consider a proposition to buy the right to use his remedy elsewhere.

"I swallowed all this with a straight face and pretended great interest. He then volunteered to show me his cases in proof of what he had said. There were about a dozen patients waiting at the time. The first he brought in was a woman with a typical carcinoma of the breast, nearly as large as an English walnut. There were no enlarged glands under the arm. She had only a few treatments and from her own statement there had been no change. The patient should have been operated on at once.

"Then came two men suffering with cancer of the rectum; both said that they were better, but from the history I got from them I think they both had hemorrhoids. They certainly did not look as if they were suffering from cancer.

"The next was a man who undoubtedly had cancer of the larynx; he had been treated a month and said that he felt better; but he could hardly talk and certainly was in a very bad condition, lacking much of being cured.

"The next was a woman of 29. She had a tumor of the breast which had been removed by incision below; the breast had not been removed. She said that she had a return and that it had pained her. There was no evidence of return, no enlarged glands; in fact, every evidence showed that the trouble was benign and that the treatment had affected the patient's imagination only.

"I later inquired about Dr. Odin's professional standing and found that he was connected with no hospital, and with no medical organization so far as I could learn; that he had published nothing and made no demonstration of his discovery. He has never done any work on lines of research or investigation that any one knows. In short, he claims to have made

the greatest discovery of the age, but nothing in his previous work or present evidence supports that claim.

"He did not appear to be overjoyed that he had found the greatest boon to the human race, but he seemed very anxious to make money, as he says only for his wife and children; he cannot afford to give it to the public on their account. He said that if some of our rich philanthropists would give him enough cash he would publish it.

"My guide said that Dr. Odin was not an educated man and spoke the 'commonest' French.

"To me there was a very sad side to this interview. He took me into his private office and showed me a large number of letters, most of them from America. These were from unfortunate sufferers from the worst of all diseases, who, in desperation, are appealing to this miserable little charlatan for relief; and this has been brought about by the unfair and distorted report published in papers which pretend to serve their patrons. . . ."—(*From The Journal A. M. A., Feb. 8, 1913.*)

OZONIZED TESTIMONIALS

Obtaining Clinical Reports on "Oxyoline Therapy"

A few weeks ago we called attention to the method adopted by the proprietor of a medical journal in obtaining testimonials favorable to products advertised in his publication. As will be remembered, the method consisted in sending out letters to his subscribers telling them how highly he, the proprietor, valued the products and asking physicians if they would not "cooperate" by writing their opinion of the same products. A crude modification of this method of obtaining testimony favorable to products advertised in medical journals has recently been called to our attention.

The *American Journal of Physiologic Therapeutics* is the somewhat imposing title of a publication that is said to be "a practical journal of progress in non-medicinal therapy." Incidentally, the advertising pages of this non-medicinal publication are devoted largely to medicinal products! The proprietor of this journal is also the proprietor of another journal which is said to be "a journal of commercial medicine." Both of these journals carry advertisements—large ones—of a device known as the "Oxyoline Apparatus," which is supposed to depend for its action mainly on its ability to produce ozone. Moreover, the proprietor of these journals is understood to be the advertising agent for the concern that exploits this "apparatus!" What the Oxyoline machine will not do in the way of abolishing or preventing disease is negligible—if the claims of the promoters are to be believed, which they are not. So much by way of explanation.

Three weeks ago,¹ in commenting on "The Alleged Hygienic Value of Ozone," we seem to have hurt "business"—advertis-

1. THE JOURNAL A. M. A., Oct. 21, 1911, p. 1370.

ing and other. At any rate, the following letter from the publisher and editor of the *American Journal of Physiologic Therapeutics* has been received by physicians:

October 27, 1911.

My dear Doctor:—I have just read a most remarkable editorial in THE JOURNAL A. M. A., Oct. 21, 1911, page 1370, entitled "The Alleged Hygienic Value of Ozone."

Does your clinical experience prove this or not? I am tempted to make a "big stir" regarding this wholly unwarranted attack on Ozone, and I am very anxious to produce an interesting symposium on Ozone in the next issue of *Physiologic Therapeutics*. Will you not send me four or five hundred words for publication, giving your personal opinion regarding this matter as based on your own clinical experience?

If, in your reading, you have found any articles on this subject or any clippings relating to Ozone or Oxyoline therapy, and you can send them along, I will be very grateful indeed, and in remuneration for your cooperation will be pleased to give you a one year's subscription to *Physiologic Therapeutics* or a five years' subscription to *Successful Medicine*.

I await your prompt reply, and, to facilitate this, a self-addressed, stamped envelope is enclosed.

Very cordially yours,

PHYSIOLOGIC THERAPEUTICS

Henry R. Harrower,
Managing Editor.

The *quid pro quo* is perfectly evident. Stated a little more baldly this letter seems to mean: "Send us a testimonial on the 'Oxyoline Apparatus' and we will give you a year's subscription to our journal." The arrangement must be an eminently satisfactory one. The advertiser is "boosted"; the advertising agent—the editor and publisher in this instance—gets more business; the original article department of the journal is cheaply and easily filled; the subscription list is boomed with what the postal authorities we presume will consider *bona fide* subscribers, and altogether it is a very admirable arrangement—for everyone except the public and the medical profession.

Those physicians who read Mr. Irwin's admirable series of articles on "The American Newspaper" doubtless had their indignation aroused when they learned that certain large metropolitan dailies would have their dramatic critics write fulsome puffs of current theatrical attractions on the tacit understanding that the theatrical company would purchase large advertising space. And yet this exhibition of venality only affected the public's pocketbook; it in no way jeopardized its health. Of course, such dramatic criticism is a farce; but what about "scientific criticism" of therapeutic agents that is purchased at the price of a subscription to a medical journal by those who are financially interested in the exploitation of such agents?—(From *The Journal A. M. A.*, Nov. 11, 1911.)

SOUR MILK THERAPY

The present interest in what may be called "sour milk therapy" in intestinal putrefaction makes the article by P. G. Heinemann in this issue a timely one. While much of the work done on the subject seems to show that lactic acid or lactic ferments possess value in cases of intestinal putrefaction, the question has in no sense been settled. Still less has it been proved that the *Bacillus bulgaricus* as a lactic acid producing organism possesses the advantages in arresting putrefaction which Metchnikoff originally claimed for it. Because of the unpleasant taste produced by the *B. bulgaricus*, Metchnikoff has urged that the paralactic bacillus (*Streptococcus lacticus*) be used in combination with it. It is therefore doubtful which of these two organisms is responsible for any resultant benefit.

UNJUSTIFIED CLAIMS

Heinemann's experiments show that the claims made for the various preparations on the market for the artificial souring of milk, are not justified in the light of our present knowledge on the subject. The question is not whether lactic acid, lactic acid bacteria, buttermilk or sour milk has any therapeutic value, but, admitting that it has, whether sour milk prepared with commercial cultures possesses any therapeutic advantages over milk naturally soured. The evidence at hand fails to give the artificially soured produce any such pre-eminence.

Lactobacilline

To consider the claims of manufacturers specifically: Lactobacilline made by the Lactobacilline Company is said to be prepared according to Metchnikoff's directions. While Metchnikoff states that yeasts should be absent, as their presence encourages pathogenic bacteria in the digestive tract, Lactobacilline contains yeast. This, too, in spite of the statement of the manufacturers, "it contains no yeast germs," and is "pure and absolutely free from all microbes except the remedial lactobacillus isolated by Prof. Metchnikoff. . . ."

Fermenlactyl

Fermenlactyl, which is put on the market by the Anglo-American Pharmacal Company, is very similar in every respect to Lactobacilline. It, too, contains, besides the Bulgarian bacillus, streptococci and yeasts. In the advertising matter microscopic plates are reproduced purporting to show only the "Bulgarian lactic acid bacilli from which Fermenlactyl is prepared." As a matter of fact, there are in addition to the *B. bulgaricus*, other bacilli, yeast cells and cocci. The claim of the manufacturers of both Lactobacilline and Fermenlactyl that the Bulgarian bacillus is the chief agent, is true only when conditions are such that the preparation of sour milk can take

place at a temperature considerably higher than that of any ordinary room. This is a somewhat difficult matter when the beverage is prepared in a private house. When the milk stands at room temperature the common *Streptococcus lacticus* becomes the predominating organism. This would be no disadvantage if it had not been claimed that the chief virtue of milk soured by these preparations is the presence of the *B. bulgaricus*. This organism is said to lodge permanently in the digestive tract and to give rise to the formation of lactic acid in *statu nascendi* and thus inhibit the growth of putrefactive bacteria—a statement that lacks scientific proof.

Kefilac

Kefilac, made by the Kefilac Company, is not a pure culture of lactic acid bacteria and the sour milk prepared with this ferment does not seem to differ materially from ordinary sour milk. Contrary to Metchnikoff's statement that the alcohol contained in the fermented milk of the Bulgarians is of no value, the Kefilac Company states that "through its large portion of water . . . through its carbon dioxid and through its small per cent. of alcohol, Kefilac greatly influences all the vital processes." Like the two preparations previously mentioned, it is a "remedy" for a long list of diseases including cancer of the stomach, rheumatism, etc.

Yogurt

Yogurt is another preparation of this class made by the Good Health Company, of Battle Creek, Mich. It contains a variety of bacteria and at least one species of yeast so that the composition of the fermented product is very similar to that of the others. The term "meat bacteria" is used in the advertising pamphlet, though what is meant is not altogether clear, since non-sporing bacteria are killed if meat is thoroughly cooked. The Yogurt tablets are called an "antitoxic ferment"—whatever that may be. The bowels must be kept active, otherwise "Colax"—a "patent medicine" put out by these people—must be used. The number of diseases cured by milk prepared with the Yogurt tablets is enormous. An elaborate list of symptoms is given, some of which may easily be imagined by the anxious layman. In fact, the descriptive matter regarding Yogurt reads very much like a Lydia Pinkham advertisement.

Lactone

It is claimed for Lactone tablets by their makers, Parke, Davis & Company, that the soured milk made with them possesses certain advantages over ordinary buttermilk. The statement: "The cream is left in the milk, rendering it of far greater nutritive value" is only partly true. If directions are followed, the milk is diluted with one-third of its volume

of water before inoculation and the fat, therefore, is naturally reduced to 75 per cent. of the original value in the milk. The fact, too, that the casein, milk sugar and salts of the milk are also reduced to 75 per cent. of the original amount is not stated by the manufacturers. The casein is certainly the most valuable part of the milk and while in ordinary buttermilk only the fat-content is reduced, the other constituents being in nearly the normal proportion, yet in Lactone buttermilk there is more fat but less casein. This is of significance since it is now fairly well established that when cow's milk is used the fat is the cause of infantile digestive troubles rather than the casein.

The advertising matter goes on to state:

"In the ordinary method of making butter the milk is allowed to sour from what accidental bacteria may get into it. Usually the lactic acid germs predominate, but along with these there is always a greater or less number of putrefactive bacteria, so that the resulting buttermilk is a mixture of true lactic acid, milk, and putrefactive products." It is difficult to understand why putrefactive bacteria should not be present in the milk when Lactone tablets are used but should be present in the same milk when the tablets are not used. If the purest milk obtainable is used, the putrefactive bacteria which are always present in the milk—even of the best grade—will not develop because the normal lactic acid bacteria antagonize them. It is clear that the same dairyman who, by 'observing cleanliness in his establishment, furnishes a good quality of sweet milk, will observe the same care in handling cream for making butter, and his buttermilk also will be wholesome and clean.

USE OF COMMERCIAL "STARTERS"

More criticism of a similar nature could be made in regard to the use of commercial preparations for fermenting milk. Where clean—certified—milk can be obtained the use of these various preparations seems unnecessary. Inasmuch as it is not always feasible to obtain certified raw milk, however, boiled or pasteurized milk is to be preferred. It is here that the artificial "starter" is of value. After the first inoculation, the same product can be obtained by inoculating pasteurized or boiled milk with a small amount of the first lot inoculated, with proper precautions of cleanliness. Once started, this process may be continued for a long time without having to renew the "starter." Those who have confidence in the merits of the Bulgarian bacillus of Metchnikoff can procure one of the preparations containing this bacillus and then proceed in the same manner as with the butter starter. It is entirely unnecessary, if not misleading, to use fancy names, as *fermenlactyl*, *lactobacilline*, *kefilac*, *lactone* or *yogurt*, this last name suggesting the

original Bulgarian fermented milk, containing lactic acid, alcohol, decomposition products of butterfat and of casein, besides a number of microorganisms. A simple name, applicable to all such preparations alike, as for instance, "buttermilk tablets" or "sour milk tablets," seems more rational.

The scope of Heinemann's paper and the thoroughness with which he treats the subject make his article an important addition to the literature of lactic acid therapy. The medical profession—and the public—is under great obligations to him for his willingness to undertake and carry out these important investigations.—(*From The Journal A. M. A., Jan. 30, 1909.*)

EPINEPHRIN

The Question of Term to Be Applied to the Active Principle of the Suprarenal Gland

Some years ago the Council on Pharmacy and Chemistry decided that it was necessary to adopt, in each instance, a generic term to designate those products that are on the market under two or more proprietary names. When it came to the consideration of the various preparations of the blood-pressure-raising principle of the suprarenal gland which were on the market, it was necessary to establish some name that should be common to all of them. The name adopted was "epinephrin." This was selected in part because it was the name under which the preparation was first called to the attention of the profession of this country by Professor Abel, as will be mentioned later. Further, the name is one which is as appropriate for the preparation as any adopted by the various manufacturers, and is, in addition, easily learned. We doubt if any one will deny that the Council on Pharmacy and Chemistry, representing as it does the American Medical Association and the medical profession of the United States, has as much right to adopt a name for the preparation as has any manufacturing firm.

For several years THE JOURNAL has endeavored to follow the unquestionably correct plan of using the scientific name of a drug or medicinal preparation in preference to the coined trade name—the proprietary name given by the manufacturer. After the adoption of the term "epinephrin," THE JOURNAL began occasionally to substitute that term for the proprietary names of suprarenal products in abstracting, but only in instances in which it was evident that the author was using the proprietary name in a general sense. In original articles, however, this was not done without the author's permission. In this way it was hoped that the medical profession would gradually be led to appreciate the fact that there is a common name for the substance. Only one protest has been received, and that from Parke, Davis & Co., a firm which sells the substance under the name "adrenalin." It was as follows:

To the Editor:—We wish to protest against the unfair manner in which one of your department editors (Current Medical Literature) is treating us.

When a reputable practitioner reports to the London *Lancet* that "the effects from the treatment of the paroxysms of asthma by the hypodermic injection of adrenalin are marvelous," your department editor is taking an unjustifiable liberty when he changes the word adrenalin to epinephrin. He knows, you know, that there is no such thing on the market as epinephrin, and that Dr. Melland used our product, adrenalin; that over 90 per cent. of all clinical work done with the active principle of the suprarenal gland is done with our preparation, adrenalin, and that it is equally unfair to your readers and unfair to the manufacturer to deliberately substitute any other name—just as wrong as it would be for a druggist to substitute any other product.

In the *Wiener klinische Wochenschrift*, May 12, Dr. Kreibich did not treat of the subject which you put in his mouth. His article was devoted to "Adrenalin Technik for Determination of Leukocytes in Tissues." Do you think it right to put in his mouth a name of which Dr. Kreibich probably never heard in his life?

It is no answer to say that you have given the same treatment to one of our competitors in abstracting an article from the *Deutsche Zeitschrift für Chirurgie*. Dr. Heidenhain undoubtedly never heard of epinephrin. He writes of the behavior of a preparation made by one of our competitors, suprarenin.

We spent tens of thousands of dollars on experimental work before our chemist, Dr. Takamine, isolated the active principle of the suprarenal gland. We now pay him a royalty on every grain of the drug and every ounce of the solution. You know that there is no such thing on any market as epinephrin. And yet you try to deprive us of the credit which is fairly ours. A fine premium you are putting on originality, enterprise and research work by commercial houses. Here we have enriched the practice of medicine with the most remarkable agent discovered since Köhler noted the anesthetic properties of cocaine (excepting always the antidiphtheritic serum); yet when a reputable physician reports his experience to the medical press, THE JOURNAL of the American Medical Association deliberately strikes out the name used by the author and substitutes one of its own.

Is this the way to teach ethics to others?

PARKE, DAVIS & Co.,
E. G. SWIFT, General Manager.

This letter was received last June. Immediately after its receipt we began an investigation as to the views of those who use the name "adrenalin" in their printed articles. To this investigation we shall refer again. It is mentioned here to explain why the letter has not been published before.

SCIENTIFIC NAMES A NECESSITY

Aside from the question of priority of discovery, this protest raises a problem much broader and deeper than any question of personal credit or commercial aggrandizement, one which concerns the ethical and scientific status of protected names. In all countries the use of trade names in scientific treatises is discountenanced, and for very evident reasons. Hence a medical substance should have a scientific name by which it may be known in literature in contradistinction to any trade name by which it may be called. This is especially true when a substance is sold under two or more proprietary names.

There are already thirty or forty different trade names for this active principle.¹ There is nothing to prevent a hundred firms or individuals from marketing this substance, each under a different trade name. Can nothing then be done? Are our abstracters to quote each of these one hundred or more names? Is it necessary that a physician use some trade name every time he mentions the substance?

If there were but one product on the market, there might be comparatively little objection to the use of the proprietary name as a generic term. When there are several, however, the adoption of one proprietary name as a generic term for that whole class of products is an injustice to all the other products in that class. Moreover, in the inevitable confusion that results, science is sacrificed to commercialism.

WHAT A BRITISH EDITOR THINKS

Very recently this same point has been discussed in British medical and pharmaceutical circles. In the London *Lancet*, Jan. 7, 1911, p. 73, there was a short note taking the editor of the "Year Book of Pharmacy" to task for substituting a generic term² for the proprietary name "adrenalin" in giving an abstract of an article that had appeared in the *Lancet*. Mr. J. O. Braithwaite, the editor of the "Year Book of Pharmacy," in a letter in the *Lancet*, Jan. 28, 1911, p. 264, justifies his course in using a generic term² in such cases, on the reasonable ground that it tends "to lessen confusion and to increase accuracy."

After showing how the use of a multitude of names for the same substance tends to degrade scientific work, Mr. Braithwaite stated that to use, in abstracting, a generic word as a "common denominator," did injustice to no one. Rather, says he: "The injustice, if any, arises entirely from the loose manner in which trade names and proprietary euphemisms are applied to those newer remedies. This has caused them as a class to fall into disrepute, and has reflected hardly on the few more valuable therapeutic articles among them . . . Moreover, it is no function of the 'Year Book of Pharmacy,' in its abstracts to advertise either 'preparations' or persons. These abstracts are intended solely to record scientific facts or practical details of use to pharmacists in their calling, or to those who are interested in the subjects with which they deal."

1. Among the proprietary preparations of the suprarenal principle made in the United States are the following: Adneprin (Frederick Stearns & Co.), Adrenalin (Parke, Davis & Co.), Adrin (H. K. Mulford & Co.), Supracapsulin (Cudahy Co.), and Suprarenalin (Armour & Co.). In Europe among others are: Atrabiliin, Chelafrinum, Eplrenan, Hemostasin, Hemisine, Ischemin, Paraneprhin (Merck), Renoform, Supraneprhan, Suprarenaden, Suprarenin (Hoechst), Suprarenin synthetic, Tonogen and Vasoconstrictin.

2. The generic term used by the editor of the "Year Book of Pharmacy" is "adrenaline."

GENERIC TERMS INJURE NO ONE

The introduction of a generic term does not prevent any physician from using the word "adrenalin," or the proprietary name of any other product. If a physician believes a certain brand to be superior, or if he wishes to contribute royalty to the enterprise of the manufacturer, then he is justified in using the proprietary term.

As a matter of fact, the word "adrenalin" has come into use as a generic name because Parke, Davis & Co. were the first manufacturers to "push" this product. This was done in all countries. The name this firm adopted was a catchy one, and as a result it is a fact that to-day, not only in this country but in Europe, "adrenalin" is regarded as a common name by a host of physicians, and used as such. In our correspondence regarding this matter this statement has been made repeatedly: "I used the term 'adrenalin' because I thought it was the common term."

In this connection, we desire to say that Parke, Davis & Co. are mistaken in asserting that we know that Dr. Melland used their preparation. On the contrary, study of his article shows that he used the word in a generic sense. Whether he used the preparation made by Parke, Davis & Co. or some other preparation is not specified.

"Do you think it is right," ask Parke, Davis & Co., "to put into his mouth a name of which Dr. Kreibich never heard in his life?" We think it right to use the word which will convey the idea to the reader's mind without chance of misapprehension. We think it wrong to use a word which has a double sense, when that can be avoided. Unless an author's words are meant to apply solely to the preparation made by Parke, Davis & Co., it is not right that that product should derive benefit from them.

Say Parke, Davis & Co.: "You know that there is no such thing on any market as epinephrin." This is true, and for the simple reason that every manufacturer, for purely commercial reasons, without regard to science, adopts a trade name for his product and pushes that product under that trade name for all it is worth. But if medical men will make it a point to use the word epinephrin in their discussions, in their writings, and in their prescriptions, it will not be long before there will be plenty of epinephrin on the market. As a matter of fact, already one firm (Mulford & Co.) has used as a synonym for its preparation, adrin, the term "epinephrin" and two other firms have expressed willingness to adopt epinephrin as a synonym. We sincerely hope that in the interest of science other manufacturers will do likewise, although it may be too much to expect that all will take this enlightened attitude.

COMMERCIAL PREPARATIONS NOT IDENTICAL

It is understood, of course, that the preparations on the market are not necessarily identical, since the drug is in solution, and these solutions vary according to the preservative and the solvent used.³ On this account some physicians will find it more satisfactory to use this or that firm's product, in which case they would of course indicate it either by appending the firm's name after the common term "epinephrin," or by using the firm's trade name.

In view of the fact that the name "adrenalin" has been trademarked by the manufacturers of this particular product and is, therefore, no longer the scientific name for the suprarenal principle, the question of priority in its discovery or preparation is one of minor importance in this connection. However, the history of this drug disproves the claim of the manufacturers of "adrenalin" of exclusive priority in the discovery. The progress of scientific discovery is rarely such that any firm or individual can truly claim all the credit.

But before going into the history let us again quote from the Parke-Davis letter:

We spent tens of thousands of dollars on experimental work before our chemist, Dr. Takamine, isolated the active principle of the suprarenal gland. We now pay him a royalty on every grain of the drug and every ounce of the solution. You know that there is no such thing on any market as epinephrin. And yet you try to deprive us of the credit which is fairly ours. A fine premium you are putting on originality, enterprise and research work by commercial houses! Here we have enriched the practice of medicine with the most remarkable agent discovered since Köhler noted the anesthetic properties of cocain (excepting always the antidiphtheritic serum); yet when a reputable physician reports his experience to the medical press, THE JOURNAL of the American Medical Association deliberately strikes out the name used by the author and substitutes one of its own. Is this the way to teach ethics to others?

How much Parke, Davis & Co. spent on the experimental work that resulted in Takamine isolating "adrenalin" is a matter best known to that firm. The following quotation from the article⁴ by Takamine in which he announced the results of his work is interesting in this connection:

"Having been interested in this subject for some time *I recently commenced* to make research along that line. I am now pleased to announce that *I have succeeded in isolating the blood-pressure-raising principle* of the gland in a stable and pure crystalline form." [Italics ours.—Ed.]

If Takamine isolated "adrenalin" so soon after commencing his research work, one wonders why it was necessary for Parke, Davis & Co. to expend "tens of thousands of dollars" for such a rapid piece of work. But this point is immaterial. The implication here is that Parke, Davis & Co. deserve the

3. There is on the market a synthetic product called L-suprarenin synthetic bitartrate. See THE JOURNAL A. M. A., Jan. 14, 1911, p. 120. Also N. N. R., 1911, p. 82.

4. Therap. Gaz., 1901, xxv, 222.

sole credit for the discovery of the active principle of the suprarenal glands. Now for the facts regarding this matter.

THE HISTORY OF THE DISCOVERY

More than half a century ago it was discovered that the suprarenal glands contain substances which give peculiar color reactions.⁵ These properties were believed to be due to the presence of pyrocatechin or to its derivatives. Since 1894⁶ it has been known that extract of the suprarenal glands possessed remarkable blood-pressure-raising and local astringent properties.

The blood-pressure-raising principle of the suprarenal gland was first isolated by Abel and Crawford⁷ in 1897 in the form of its benzoyl compound. Finding this substance and its derivatives to be physiologically active, Abel believed that he had isolated the true active principle of the suprarenal gland in a pure state and named it "epinephrin,"⁸ meaning, of course, that the name should apply to the true blood-pressure-raising constituent. The soluble salts of epinephrin, as prepared by Abel would, no doubt, have met all the needs of practical medicine if his methods of preparation had not been too expensive.⁹

Contemporaneous with Abel's earlier researches, v. Fürth¹⁰ succeeded in isolating from the glands in an impure state an active principle which he called "suprarenin." In 1901, four years after Abel's first report, Takamine,¹¹ separated an active principle from the glands which he called "adrenalin." In the same year, Aldrich,¹² a former associate of Abel, independently produced an active principle, said to be much purer than Takamine's, which he also called "adrenalin." That Aldrich's product was purer than Takamine's is shown by a comparison of the formulas given by the respective authors. Takamine originally stated that the formula for his adrenalin was $C_{10}H_{15}O_3N$, while Aldrich (from the analysis of his own product) assigned the formula $C_9H_{13}O_3N$. Aldrich's formula has since been confirmed by many independent investigators, while

5. Vulpian: *Compt. rend.*, 1856, xliii, 663.

6. Oliver and Schäfer: *Jour. Phys.*, *Proc. Phys. Soc.* p. 1, 1894, xvi; *Proc. Phys. Soc.* p. 1, 1894, xvii; 1895, xviii, 230.

7. Abel and Crawford: *Johns Hopkins Hosp. Bull.*, 1897, viii, 151.

8. Abel: *Ztschr. f. phys. Chem.*, 1899, xxviii, 320-1.

9. Hunt: *Proc. Am. Physiol. Soc. in Am. Jour. Physiol.*, 1901, v, 6.

10. v. Fürth: *Ztschr. f. phys. Chem.*, 1898, xxiv, 142; 1898-9, xxvi, 15.

11. Takamine: *Am. Jour. Pharm.*, 1901, lxxiii, 523.

12. Aldrich: *Am. Jour. Physiol.*, 1901, v, 457. The work of Aldrich was published in the same year, but after that of Takamine. He used the name adrenalin also. The statement that Aldrich's product was purer comes from Crawford, now Professor of Pharmacology in Leland Stanford Junior University, California, formerly with Parke, Davis & Co. This statement was published by Crawford in the *Bulletin of the Bureau of Plant Industry*, No. 112, 1907, p. 16.

no one has ever been able to substantiate the formula originally claimed by Takamine. This fact alone demonstrates that Takamine can have no legitimate claim to be the first to isolate the active substance in a pure state.

It is evident that all these investigators were working with the same substance, in varying degrees of purity. In fact, with the exception of mentioning v. Fürth's name, this is the belief of Crawford,¹³ Abel's early associate. This opinion, however, was written by Crawford, a decade after his work with Abel. Jowett, in England, several years earlier had come to the same conclusion.¹⁴ He says: "Epinephrin," "suprarenin" and "adrenalin, refer to the same substance." Concerning the proper name for the active substance of the suprarenals, this chemist says: "As this author (Abel) was the first to isolate the substance, although in an impure condition, it would seem that the name originally assigned by Abel, to the active principle, should be the one adopted."

A review of the facts as briefly stated above shows that Abel's reports as well of those of v. Fürth were published in 1897-99, long before Takamine's announcement of the isolation of "adrenalin." To Abel, then, more than to any other, belongs the credit of having paved the way for the perfection of epinephrin. As we stated before, therefore, the name which he selected for the substance is the scientific one, the only proper one, if for no other reason than on account of the priority of his systematic researches. We contend, therefore, that "epinephrin" is the most correct generic name for the suprarenal principle and that the Council on Pharmacy and Chemistry did well in selecting this term.

SOME OPINIONS

To ascertain whether authors in speaking of "adrenalin," always mean the Parke-Davis preparation, or whether they generally intend a wide application, we entered into correspondence with those who mentioned the word "adrenalin" in their articles, and we quote from some of the replies (*italics ours*):

Dr. Edward B. Bigelow, Worcester, Mass., says:

Personally, I do not intend to use trade names or write prescriptions for proprietary preparations, although, occasionally, I must admit that I do the latter. *As a matter of fact, through ignorance, I used the word "adrenalin," considering it to be the general term for the preparation and not knowing, until you called my attention to it, that epinephrin is that term.* On looking the matter up, the preparation really used by me was "supracapsulin." I shall be pleased to substitute the word "epinephrin" where I used the word "adrenalin."

Dr. E. Fletcher Ingals, Chicago, in discussing a paper in the Section on Laryngology and Otology last June, spoke of using adrenalin. In reply to our letter he says:

13. Crawford: U. S. Dept. of Agr., Bur. Plant Ind., Bull., 1907, cxii, 10.

14. Jowett: Jour. Chem. Soc., 1904, lxxxv, 192.

I used the term in a general way, for I seldom use adrenalin as it is too irritating in consequence of chloretone, but use suprarenalin. . . . Your plan is absolutely right and I hope the profession will see it in this way. I shall probably continue to use Armour's preparation, suprarenalin, as I like it best, but we will call it epinephrin.

Dr. Rudolph Matas, New Orleans, says:

In using the term "adrenalin" I was familiar with the fact that there are several preparations of the same kind under different proprietary names; but, remembering the early work of P. D. & Co. in developing adrenalin among other cruder products of the suprarenal gland. I have clung to them faithfully up to the present time. However, in applying the term "adrenalin," as I have done, especially in our work on local anesthesia, *it was not my intention to specify any particular "makes" of suprarenal product* in preference to any other, but *I meant to use it in a generic sense* without meaning particularly P. D. & Co. in preference to Mulford, Armour & Co., Stearns, etc. I did not have in mind the trade name, but a generic name that applied to the product of the adrenal, which we all recognize as the same thing under various trade names. I see clearly the point you make and believe it is well taken. I am fully in accord with the purpose and the principle upheld by the Council on Pharmacy in doing away with trade names, if possible, but those of us who have been in the habit for years of designating certain things by certain names which are familiar to us find it difficult to break into a new practice.

Dr. John O. Roe, Rochester, N. Y., replied:

As stated in my article, *it was adrenalin I used in the cases I reported.* I have no objection to the use of the general or generic term covering all the different preparations of this agent, although I stated that I used adrenalin for the reason that I have found it the most active and the most reliable of all these preparations.

Dr. Leo Loeb, St. Louis, says:

I have no objection to the change you propose in my paper, *I am glad to use the term "epinephrin" instead of "adrenalin."* I am in hearty sympathy with the work done by the Council on Pharmacy and Chemistry.

Dr. A. L. Scharber, Nashville, Tenn, says:

I did not intend to use any trade name; *I only used it in a general way.* I thought at the time that I had applied the name as it should be. Now, if I had known in time, I should have substituted the word "epinephrin" for "adrenalin."

Dr. Theodore C. Janeway, New York, writes:

I am heartily in sympathy with your desire to eliminate trade names. *In this case it was P. D. & Co.'s preparation.* . . . It seems to me unfortunate that adrenalin, which is used fairly generally in the German literature, should not have the same non-specific signification here, but suppose we cannot help that. Epinephrin always seemed to me a much clumsier name than adrenalin. However, I suppose P. D. & Co. have made it impossible to use the latter.

As stated by Dr. Janeway, "adrenalin" is used as a general term in a general sense in Germany, and in fact all over Europe, as it is in this country, and for the same reason. Thus, to quote only recent literature, Ascher and Flack (*Ztschr. f. Biol.*, 1910, Vol. 55) use the word "adrenalin" throughout their article, in the protocols and conclusions; but on page 115 they state that they actually employed the preparation "hæmostasin." Hirayama (*Ztschr. f. exper. Path. u. Ther.*, 1911, Vol. 8, p. 651) speaks of "adrenalin experi-

ments," but actually used "suprarenin Hoechst" in all cases. This illustrates the generic use of the term. But while the substance is on the market in Europe under a greater variety of names than it is in this country, adrenalin has the same narrow, limited meaning as it does here. Parke, Davis & Co. emphasize this even in their advertisements. In a full page advertisement in the London *Lancet* recently the British profession is advised that "there is only one adrenalin. . . . Parke, Davis & Co. introduced adrenalin into medicine. This principle was isolated in 1900 by Dr. Takamine, a member of their scientific staff, and the sole right of manufacture by his process is vested in them." German physicians are laboring under the same difficulty as physicians in this country would be laboring under were it not for the Council on Pharmacy and Chemistry.

We believe that the patent on adrenalin will expire in five or six years. Then not only the method of manufacturing it but the product itself will be free. But Parke, Davis & Co. will still control the name "adrenalin," and every time the physician prescribes under this term the druggist must use Parke, Davis & Company's preparation.

In scientific literature, however, or whenever the observations or conclusions are not restricted to the Parke, Davis & Co. product, the name "epinephrin" is not only justified, but commendable. The very condition of scientific progress is freedom. The interest of the public and of science demands that this freedom should be maintained. We doubt greatly whether many scientists of established reputation will subscribe to the insinuation in the protest quoted above, that the cause of science is best advanced by restricting its liberty, in order to put a premium on the "originality, enterprise and research work of commercial hourses."

Such an attitude would certainly be contrary to the best traditions of medical science. Modern conditions may have necessitated some changes in the traditional practice—but not to the extent that thinking men will agree with the accusation that those who prefer a free name to a "protected" name, are guilty of sophistication and of debauching the ethics of the profession.

Parke, Davis & Co.'s "Reply" to the Above, with Our Comments

With a desire to be absolutely fair and to avoid any possible misstatement of facts, a proof of the above was submitted to Parke, Davis & Co. This firm has made a rather lengthy "reply," which ignores the main point—the absolute necessity, in the interest of science, of a practical, generic name—but deals expansively with side issues, especially in extolling their own product. The reply absolutely ignores the point at issue. As will be noticed by those who read the "reply" through consecutively, it contains many reiterations. A slight rearrangement of the paragraphs has been made,

therefore, in order that we may comment in one place on related matters. As the paragraphs are numbered, it will be easy for those who desire to do so to read Parke, Davis & Co's "reply" in the order in which it was sent in by them. Omitting the first paragraph, we have arranged the text of the reply under four heads. Their "reply" begins as follows:

To the Editor:—On the following points in the article which you send us, "Proprietary versus Unprotected Names," you take a position which is utterly untenable:

1. Not a single grain of the active principle of the suprarenal gland was on the market, in pure state or in solution, until Parke, Davis & Co. first offered the pure adrenalin and the solution adrenalin chlorid to the medical profession and the drug trade. That we were the first to offer these products for sale has never been disputed.

Comment:—Technically this is true. Nevertheless, under the name "epinephrin," an active principle of the suprarenal gland, as prepared by Abel, was in the hands of clinicians, in the form of a salt and in solution, and was being made the subject of experiment and report to medical societies nearly two years before Parke, Davis & Co. offered it for sale.

I. VARIATIONS IN COMMERCIAL BRAND

2. If you will turn to Bulletin 61 of the Bureau of Public Health and Marine-Hospital Service at Washington, you will find on page 25 a summary of an investigation of six preparations on the market purporting to contain the active principle of the suprarenal gland. In point of activity four of them range from 3.7 to 66.6 per cent. of the normal standard. Only two are pronounced satisfactory (100 per cent.). If you purpose to encourage the use of the generic name for the six preparations, and if a physician prescribe epinephrin, which of the six products would you have dispensed on his prescription—the active, the standardized or the virtually inert? Would you leave the decision wholly to the dispenser? Would you give the physician any voice in the selection of the product that he can trust? And if in your dislike of "trade names" you persist in closing your columns to them and in substituting epinephrin therefor, will you, in justice to the physician and in justice to the particular product which may have been used by your contributor, take the trouble to insert "epinephrin (Jones)," or "epinephrin (Smith)," or "epinephrin (Parke, Davis & Co.)?"

Comment:—This matter has been dealt with (page 911, col. 1, par. 5), in part, as follows: "It is understood, of course, that the preparations on the market are not necessarily identical, since the drug is in solution, and these solutions vary according to the preservative and the solvent used. On this account some physicians will find it more satisfactory to use this or that firm's product, in which case they would, of course, indicate it either by appending the firm's name after the common term 'epinephrin' or by using the firm's name."

The introduction of a generic term does not prevent any physician from using the word 'adrenalin' or the proprietary name of any other product. If a physician believes a certain brand to be superior, or if he wishes to contribute royalty to the enterprise of the manufacturer, then he is justified in using the proprietary term.

We have no complaint against the use of a trade name when the prescriber, author or abstracter intentionally restricts his remarks to that one particular preparation, as in the comparative investigations quoted in the reply. But as we have pointed out, practically all authors intend to use a generic name, and think that they are doing this.

3. Allow us to remind you of your own words in *THE JOURNAL* of the American Medical Association, Feb. 26, 1910, page 710:

"Scnultz has just published the results of a careful examination of samples of the suprarenal preparations on the American market, which illustrated once more the need of more care in the methods of preparing and keeping this important drug. Of the six different products only two were of the strength claimed; the others vary from 3.7 to 66.6 per cent. of this strength. . . . Hunt in 1906 showed that some of the preparations labeled 1:1,000 had only one-fifth of the activity of others bearing the same label. Sollman and Brown of Cleveland, Ohio, showed the activity of eight commercial preparations to differ greatly. . . . The fact remains, however, that inferior preparations are on the market and are probably passing into the hands of physicians daily. . . . There are reasons for believing, however, that some of the firms preparing this and some other drugs requiring physiologic standardization are not properly equipped for the work."

If, now, the physician prescribes simply "epinephrin," what ground has he for complaint if a solution containing 3.7 per cent. of proper normal potency is dispensed?

5. Those manufacturers who are making substitutes for adrenalin will rejoice to know that an influential medical journal is supporting their attempts to destroy in the minds of physicians the distinction between their products and the original. No wonder that one or more of them have been willing to accept your suggestion and attach the word "epinephrin" to their labels! Why should they forego your help in rectifying their past failures to give standing to their imitations and substitutes?

Comment:—We are not aware that there is any "distinction," other than the variability which may exist between any two commercial brands of the same substance. The variation is unfortunate, and should be speedily abolished by the standardization of *all* the brands—a work which the Council on Pharmacy and Chemistry is trying to accomplish. Instead of this, Parke, Davis & Co. propose to meet the conditions by creating and perpetuating a monopoly.

To realize the absurdity of this, we need only consider a few analogous examples: Common table salt is not absolutely pure. Let us suppose that a commercial firm markets a pure sodium chlorid under a protected trade name. Must scientists henceforth drop the scientific name of "sodium chlorid" or the public the common name "salt," because uniformity would be promoted thereby? Again: Digitalis preparations vary notoriously. Let us suppose that Smith, Jones & Co. invent a more uniform preparation and incidentally also invent a new name. Should the name "digitalis" now be dropped from the literature, because it refers to variable products? Or again, let us now suppose that we now accomplish the impossible and accept "adrenalin" as the generic name; must we change this every time that some one finds a better way of making a somewhat purer product, or a more stable solution? Parke, Davis & Co. bring another argument along the same line:

7. Your own laboratory (THE JOURNAL A. M. A., Oct. 31, 1908, pp. 1524-25), has borne witness that of four samples (of preparations purporting to be solutions of the active principle of the suprarenal gland) only one did not contain sodium sulphite or a similar bleaching agent—an agent which is generally conceded to have no real preservative effect, and only serves to deceive the physician by masking the tell-tale evidence of decomposition. We do not ask you to publish the name of the manufacturer of the lone sample: we can guess for ourselves.

Comment:—We do not know at all that “it is generally conceded” that the sulphite has no real preservative action and is therefore a fraud; or that the infinitesimal dose used is at all harmful; or that it is in any way inferior to the preservative used in “adrenalin solution.” In the absence of any evidence in this direction, the Council had to be content with a statement of the nature of the preservative; but if good evidence is adduced, the Council will doubtlessly apply it.

II. EXPENSE OF DISCOVERY

Parke, Davis & Co. lay great stress on the matter of the expense of discovery in the following paragraphs:

4. The relative merits of Takamine and Aldrich, on which you dwell, have no bearing on the case. Both were in our employ during and before their work on the suprarenal gland. Aldrich entered our service July 10, 1898, and devoted more than two years to this work. Takamine had the good fortune to reach the covered goal first. With either or both, Parke, Davis & Co. share the credit, for obvious reasons.

6. Much is said of the selfish motives and the pecuniary rewards of the manufacturer, little or nothing about his outlay, his financial hazard, his losses. Few remedies of real value are brought forth in this era save by highly trained and well-paid men working in costly laboratories. The world hears of the success, applauds the discoverer (perhaps), and utilizes the remedy. No one thinks it worth while to ascertain the costly failures, for the failures cost as much as the successes, and the returns from one success must necessarily offset the losses of a half dozen failures.

Comment:—Just when, where and how long Dr. Takamine and Aldrich were in the employ of Parke, Davis & Co.; what were their salaries and other conditions of their employment; what proportion of their time was devoted to investigations of the suprarenal problem; what other use may have been made of them—or in fact, what were the expenses of Parke, Davis & Co. in discovering adrenalin, and the probably vastly larger expenses of advertising it, what is the present rate of profit, etc.—all these are questions which may have an interest of their own; but we fail to see what practical bearing they have on the question whether we need a generic name for the numerous commercial brands of an identical substance; or even on the choice of name, since the Parke, Davis & Co. name is protected, and therefore not available as a generic name.

In passing, however, it may be remarked that so far as the mere question of expense is concerned, Takamine and Aldrich, and through them Parke, Davis & Co., certainly profited somewhat by the work of the preceding and contemporaneous workers in the same field; but we have still to learn that they have made any effort to reimburse these “outsiders” for their share

of the expense. In the aggregate, this was doubtless much greater than that of Parke, Davis & Co. The independent workers were not looking to financial encouragement; they were looking to the benefit of mankind; they are entitled to *that* benefit, and presumably would not accept any other. Parke, Davis & Co., however, would take this benefit from them, capitalize it, and convert it into dividends. These independent investigators doubtless believed, as we have said, that they were working for the benefit of humanity; it appears, however, that they were, in fact, working for the exclusive benefit of Parke, Davis & Co. This is one of the unfair phases of commercialized research.

III. PRIORITY OF DISCOVERY

As we have repeatedly pointed out, the "priority of discovery" has no practical bearing on the need, or in this case even on the choice, of a generic name; for a generic name, by its very definition, cannot be monopolized, and "epinephrin" is the only current name for the substance which has not been monopolized. It was not even proposed for any specific product, for Abel said: "I therefore name the blood-pressure-raising substance (of the suprarenal gland) 'epinephrin,' in accordance with Hyrtl's nomenclature" (*Hoppe-Seyler's Ztschr.*, 1899, xxviii, p. 321).

However, since Parke, Davis & Co., in their first letter, claimed to have "enriched the practice of medicine with the most remarkable agent," etc., we felt it our duty to point out that such a claim deprives Dr. Takamine's predecessors of the large part of the credit which is fairly theirs. The "enrichment" really dates from the discovery, by Oliver and Schäfer, of the vasoconstrictor action of the gland; which led to its therapeutic use. Had it not been for this demonstration of the therapeutic potentialities of the gland, Parke, Davis & Co. would probably not have dreamed of financing its investigation. For this then they deserve no credit. The next step was the demonstration that this action resides in a definite chemical substance; and this substance, in the form of a benzoyl derivative, was first isolated by Abel—also without the aid of Parke, Davis & Co. Had it not been for the demonstration of the basic character of this substance, Dr. Takamine might still be floundering in the dark for a process of isolation.

The next step was the isolation of the natural base, and the credit for this, we say without hesitation, belongs to Takamine, Aldrich and Parke, Davis & Co. This was followed by the determination of the structural formula; and finally by the synthesis of the substance. In the last, Parke, Davis & Co. again had no share. In such a chain of discoveries, is it right for anyone to claim exclusive credit; to imply that he alone has enriched the profession? Is it possible even to say who should have the major share? We do not believe so, and we shall not attempt it. We concede a fair share to Parke, Davis & Co., namely, the final isolation of the natural base. We do not

blame them for speaking warmly on this point, nor even for some partiality to their own merits; and therefore we shall comment only on such of their statements as are distinctly unfair to other investigators, hence, subdivisions as to f inclusive, of paragraph 8 are not commented on, while subdivisions i, j and k are discussed separately.

8. (a) You do us and our employees an injustice in the language which implies that Professor Abel was mainly responsible for the discovery and preparation of the pure, active principle of the suprarenal gland. Abel was not the first to learn that this gland contained some substance giving a peculiar chemical (color) reaction. This was demonstrated by Vulplan (*Compt. rend. Acad. d. Sc.*, Paris, 1856, xlili, 663-665) in 1856 and confirmed by Virchow (*Virchow's Arch. f. path. Anat.*, 1857, xii, 481) in 1857. He was not the first to believe that these glands contained some active principle, because Vulplan and Cloez (*Compt. rend. Acad. d. Sc.*, Paris, 1857, xlv, 340) in 1857, and Arnold (*Virchow's Arch. f. path. Anat.*, 1866, xxxv, 64) in 1866, and Holm (*Jour. Pract. Chem.*, 1867, c, 150) in 1867, had arrived at the same conclusion, as is shown by their attempts to isolate such an active principle.

(b) He was not the first to demonstrate that these glands contained a substance of undoubted chemical similarity to another well-known substance, for Krukenberg (*Virchow's Arch. f. path. Anat.*, 1885, ci, 542) in 1885 called attention to the similarity between the color reactions of the extract of this gland and those of pyrocatechol. Also, Brunner (*Schweiz. Wehnschr. f. Pharmakol.*, 1892, xxx, 121) in 1892 confirmed Krukenberg's conclusions in reference to the similarity between the color reaction of some substances in the glands and those of pyrocatechol.

(c) Abel did not first demonstrate that these glands contained a substance of marked physiologic activity, for Oliver and Schäfer (*Jour. Physiol.*, 1894, xvi, 1; 1895, xviii, 230) in 1894 made the important discovery that the extract from the suprarenal glands produced a rising blood-pressure when injected intravenously. Moreover, Moore (*Proc. Physiol. Soc.*, London, xiv; *Jour. Physiol.*, 1895, xvii) in 1895 discovered that the reducing property in such an extract went hand in hand with the ability to increase the blood-pressure, and he also concluded that the physiologically active body must be identical with the reducing body which gives a green color reaction with the iron salts.

(d) In 1896 Fränkel (*Wien. med. Bl.*, 1896, xix, 207, 228, 246) purified the extract of the glands until he had obtained a syrup-like body, and he, like Abel, with equal reason, considered this to be a pure substance. He called it "sphygmogenin," but no evidence was offered to demonstrate its purity or identity. In the light of our present knowledge we, of course, know that it was not the active substance, though it undoubtedly contained some of the active substances.

(e) Mühlmann (*Deutsch. med. Wehnschr.*, 1896, xxii, 409) in 1896 made a chemical investigation and arrived at the conclusion that the active principle was pyrocatechol. This, of course, we now know to be untrue also.

(f) Moore (*Jour. Physiol.*, 1897, xxi, 383) in 1897 argued that Fränkel was wrong in assuming the active principle to be a derivative of pyrocatechol, and argued that it was a derivative of pyridine. The error of this conclusion has also been demonstrated; nevertheless, Moore's work was important, very interesting and creditable.

(g) Abel and Crawford (*Bull. Johns Hopkins Hosp.*, 1897, viii, 151) in 1897 published results which showed that they had been carrying on a very interesting series of chemical researches on the active principle, but a careful perusal of the papers published at this time, and also in 1898 and 1899, and, in fact, a perusal of all the papers which have emanated from Professor Abel, has demonstrated that he never did succeed in isolating the active substance in pure form, but that what he did obtain and what he did regard as the active principle and the substance to which he has given the name of eplnephrin, was really a compound, which was not the active principle itself, but which contained more or less of the active principle and which consequently

displayed some of the peculiar physiologic activity of this substance. Aside from the greater complication of the work, and perhaps the more highly scientific methods used, he really accomplished little more than did Fränkel in 1896, or perhaps Oliver. Schäfer and Moore, who made an extract from the glands and proved it was possessed of peculiar chemical and physiologic activity. More than this, the work which he did and the results which he published were not finally used by Drs. Takamine, Aldrich, von Fürth or Pauly as the basis of a method for the extraction and purification of the active principle. Without the independent labors and discoveries of these other men or others equally as able and fortunate, it is quite possible that the active principle of the suprarenal glands in a pure and concentrated condition would not be available to the medical profession to-day.

(h) If Abel has ever succeeded in extracting the pure active principle, even up to the present day, without taking advantage of the information developed by Takamine and others, we have seen no evidence of it in the scientific journals. There is no doubt that Abel was convinced that these glands contained some substance possessing high physiologic potency; in fact, he could not have avoided such a conclusion from the information furnished by others, and one might perhaps say with all justice that he assigned the name epinephrin to the substance which he imagined was present in the glands, but his conclusions as to the constitution of this substance, and the methods which he developed for its extraction and purification, have been overthrown by others and are not accepted to-day by his scientific colleagues.

Subdivisions i, j and k are commented on below.

(l) No less than four formulas for the active principle of the suprarenal glands have been proposed by Abel from time to time. Even if we agree to adopt the last of these, one cannot avoid the fact that this has been proved beyond any doubt to be an incorrect formula for the active principle. It would certainly do violence to scientific usage, and be a distortion of the truth, therefore, to apply this name "epinephrin" to a substance now known as "adrenalin," which has a different chemical constitution.

Comment:—In justice to Abel, it should be said that he conceded that he had not isolated the natural base, but its benzoyl salts. These, however, he evidently had in a practically pure form—as pure as Takamine's original products. In evidence, we need only quote Aldrich, and therefore Parke, Davis & Co. themselves: "It is interesting to note in this connection that if we subtract a benzoyl residue from Abel's formula for epinephrin— $C_{17}H_{15}NO_4$ —we obtain a formula— $C_{19}H_{19}NO_3$ —which is not very far removed from that of adrenalin— $C_9H_{13}NO_3$ —a difference that can be readily explained if we suppose either of these bodies to be contaminated with other bodies." (*Am. Jour. Physiol.*, v, p. 461). As to the matter of formulas, it must be remembered that the time when Abel worked on the problem, the subject was scarcely ripe for final judgment. Every chemist understands that the earlier formulas are more or less provisional. A criticism on this score is scarcely fair, least so from the champions of Dr. Takamine; for the formula of Takamine has shared the same fate as Abel's. In fairness, it should also be stated that the four formulas which excite the derision of Parke, Davis & Co., were not all for one and the same thing.

Parke, Davis & Co. then quote the opinions of several investigators:

(i) Professor Pauly (*Ber. d. deutsch. chem. Gesellsch.*, 1903, xxxvi, 2944), a man of world-wide reputation writing from the laboratory of the University of Bonn, says:

"The credit of first precipitating and isolating from the suprarenal gland of the therein contained blood-pressure-raising principle as a chemical individual belongs to Takamine. It has the name 'adrenalin,' given to it by its discoverer, which name, among the many trivial names given to it, possesses the best scientific claim."

(j) Professor von Fürth (*A. d. Sitzungsab. d. k. Akad. d. Wissensch. in Wien. Mathem.-Naturw. Klasse*, 1903, cxii, 3) says in this connection:

"Abel and his pupils employ the name of epinephrin to designate the active principle as contained originally in the gland, instead of adrenalin or suprarenin. As the substance described and analyzed by Abel under the name epinephrin is certainly different from the original body in the adrenal glands, I shall avoid using the same, since it necessarily leads to a misunderstanding."

(k) In a second paper Pauly (*Ber. d. deutsch. chem. Gesellsch.*, 1904, xxxvii, 1388) emphatically rejects Abel's empirical formula, $C_{10}H_{13}NO_3 \cdot \frac{1}{2}H_2O$, and remarks:

"This formula, together with the name 'epinephrin hydrate,' which designates the same, should be blotted out of the literature. The name 'epinephrin,' however, should remain now as before for the basic substance obtained by treating adrenalin with concentrated H_2SO_4 , or with dilute acids under pressure, and to this the formula $C_{10}H_{13}NO_3$ should be given. This body, whose chemical composition is different from adrenalin, and whose physical, chemical and pharmacologic properties are different from the real blood-pressure-raising substance, should be considered a transformation product of the active principle."

Pauly adds that Jovett is mistaken in giving Abel and Crawford credit for the priority in first isolating the active principle:

"Thus there can be no doubt that not Abel and Crawford, but Takamine first obtained the active substance. If Abel adheres to the statement referred to in the beginning, that his formula $C_{10}H_{13}NO_3 \cdot \frac{1}{2}H_2O$ finds confirmation in the analyses of salts and derivatives, it must be answered that this is not the case; that he, outside of one impure benzoyl product, has not prepared, not to say analyzed, up to the present time, either a salt or derivative of adrenalin, in which the nucleus of the last is still intact."

Comment.—These are altogether matters of opinion or point of view, and to appraise them, it should be understood that Pauly, at the time when he wrote them, was engaged in a somewhat sharp controversy with Abel, as might be gathered from the expressions quoted. His views, therefore, would be apt to lack perspective, in fact, they would tend to be somewhat biased. Incidentally, Pauly is not a professor but a privat docent at the University of Würzburg and can hardly be said to be a "man of world-wide reputation as a chemist." As to von Fürth's statement, there can no longer be any fear of a "misunderstanding."

Parke, Davis & Co. proceed:

(m) Abel's epinephrin possessed little if any blood-pressure-raising action (von Fürth: *Ztschr. f. physiol. Chem.*, 1900, xxix, 122). Abel never succeeded in producing the crystallized base until he learned how from Takamine. The one point on which Abel (*Bull. Johns Hopkins Hosp.*, March, 1901, xii, 80) at first agreed with von Fürth (most erroneously, as it proved) was that "the active principle in its native state is not precipitated by ammonia." Not only was this single point of agreement exploded by Dr. Takamine's discovery, but singularly enough Abel's statement of the error was made in the same article of May, 1903, in which he acknowledged receipt of the Takamine crystalline base, of which he then did not know the process of making. In other words, Abel never succeeded in producing the crystalline preparation of the blood-pressure-raising principle until Takamine taught

him how by a method which he and von Fürth had pronounced impossible! Abel remarks later (*Ber. d. deutsch. chem. Gesellsch.*, 1903, xxxvi, 1839): "The important observation that the substance can be precipitated in crystalline form from concentrated gland extracts by the aid of ammonia and other alkalies we owe to Takamine." Nothing could be more explicit.

Comment.—As to the ammonia-precipitation, the fact that Takamine succeeded where Abel and von Fürth had failed, proves that Abel was wrong in this particular, as he concedes in the quotation. Abel fell into this error because his gland solutions were too weak; he had, however, discovered the ammonia-precipitation in the case of his isolated substance, and the basic nature of the latter long before a report of Takamine's work was published. (*Hoppe-Seyler's Ztschr.*, 1899, xxviii, 324.)

The statement that "Abel's epinephrin never possessed any blood-pressure-raising action," is a wholly inexcusable misrepresentation, to put it mildly. Abel stated that his free base soon lost its activity, but the salts, especially the picrate and bisulphate, were highly active, and in the dry state retained their activity. These active salts, as epinephrin bisulphate, were always prepared by transposition from a picrate and not from the free epinephrin which became inactive presumably by oxidation during the precipitation. The curves in the paper of Abel and Crawford (*Johns Hopkins Hospital Bull.*, 1897, viii, 151) were absolutely convincing. In the paper in *Hoppe-Seyler's Zeitschrift*, xxv, Abel found that 0.02 mg. of the salt per kilo of animal gave a distinct rise; and that larger doses raised the pressure by 88 mm. On p. 349, he also describes the blanching effect on the conjunctiva. The writer of the "reply" is evidently familiar with these papers and his misstatement of the case must, therefore, be intentional, especially since he admits in a former paragraph (g), that Abel's epinephrin "displayed some of the peculiar physiologic activity of this substance" (the active principle). Nor does this writer anywhere intimate that Abel has replied in detail to von Fürth's contention that epinephrin and suprarenin (the name adopted by von Fürth for the active principles of the suprarenal gland, now a "trade" name) are fundamentally different substances. (See Abel, *Johns Hopkins Hospital Bulletin*, March, 1901, and *American Journal of Pharmacy*, July, 1903.)

SUMMARY

Parke, Davis & Co., conclude their reply as follows:

(n) Far be it from us to pretend that our research workers were not greatly indebted to other pioneer students of the suprarenal gland, or to deny that the work of a number of earnest investigators had paved the way for Takamine's crowning achievement. Nearly every great invention or advance in every art is thus made possible. Pasteur made Lister possible. Is this any disparagement of Lister? Because there was a prior record of research, are we to be robbed of the credit which is justly due us for being the first, through our employees, to separate the active principle in its pure state, to determine its constitution, to evolve a practical method of production on a commercial scale, to confer a remark-

able boon on suffering humanity? Is the inventor of a therapeutic agent to be discriminated against? Has society a greater stake in an improved broom-handle than in a valuable drug? Nay, of all inventions, should not the author of a new remedy be singled out for the richest rewards that society can confer? Will Professor Ehrlich be any the less a great benefactor of his race if he reserves for himself or for his institute in Frankfort a large royalty on his wonderful salvarsan? If we have done nothing for medicine and humanity in this matter of adrenalin, your argument is sound. If we have done much, your position is pitiful and wrong. And, worst of all, the very men whom you profess to serve—the medical practitioners of the country—will be the first to suffer. The more you encourage the use of the blanket name "epinephrin," the more you put the physician at the mercy of "thirty or forty" different manufacturers whose products range in value from the worthless to the best.

PARKE, DAVIS & Co., Detroit.

By E. G. SWIFT, General Manager.

Comment:—We commend the spirit of the first sentence. For the rest, we need only restate the principle at issue, which Parke, Davis & Co. have seen fit to ignore entirely in their reply: When the same substance is actually marked and used under several distinctive trade-names, it becomes necessary to use a generic name when speaking of properties of the substance which are common to all "brands." This is the intent of most scientific and medical writers on the suprarenal base, and when the word "adrenalin" is used by medical writers, it is generally meant in the generic, and not in the distinctive sense. Since the name "adrenalin" is protected, it should not, and properly cannot, be used in this way. The name "epinephrin," since it is not monopolized, is not only the best, but also the sole name which can be rightly applied to the suprarenal base, in the generic sense.—(*From The Journal A. M. A., March 25, 1911.*)

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